THE AMERICAN

BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XIV. CHICAGO, ILLINOIS, APRIL, 1878. No. 4.

Contents of this Number.

Editor's Table.

☞ We have sent the Petitions to Congress concerning the sending of Queens by mail, and had several letters from Congressmen, stating that they will do all they can to have it incorporated in the new Law about to be presented to Congress.

☞ Under a false impression, friend King said some unkind things concerning us in the *Magazine* for March. As he corrects the statements and apologizes therefor in this month's *Magazine*, we will simply say—"Tis well."

☞ Friend Hedden remarks in his article on marketing honey, in this issue, that "what we most need is uniformity and attractiveness in our packages." Never was a fact more concisely stated. These words, "attractiveness" and "uniformity," are the keys to the situation.

☞ C. O. Perrine, we learn, has completed his arrangements for a floating apiary on the Mississippi River—and with his skill and shrewdness, we have no doubt he will make it win—unless a drought or something of that sort takes place. He intends to ship honey direct to Europe, and get an early start.

☞ Our friends have deluged us with articles and letters during the past month—but hundreds of them are destined to wait for want of room. Let no one think that theirs is put over because we *prefer* others. This is not so; often we found the Department full before one-quarter of those prepared for it were "set up"—and thus, often the *best* remained. Be patient with us, friends, and you may *all* speak to one another through the JOURNAL.

STRANGE!—On March 27 we received a postal card, written March 14, reading thus:

FRIEND NEWMAN:—"I sent you, Feb. 1st, by registered letter, my subscription for the AMERICAN BEE JOURNAL, for 1878, and for *Arthur's Home Magazine*. Have you received it?"

As this contained neither name, post-office, county, nor state—and as the post-mark is only a blot, it is impossible to tell—but we think we did not receive it, or the writer would have our receipt. If he will give us his name and post-office address, it shall have immediate attention.

Cedar Falls, Iowa, March 3, 1878.

MR. EDITOR:—"I would like to enquire how those who advise keeping bees in their winter quarters until late in the spring, when forage is plenty, manage to keep their bees quiet and in their hives? Our bees, here in Iowa, are very much inclined to get up, rub their eyes, and stir themselves when the first warm days come." E. E. STARK.

Just so; "They all do it," and everywhere the same. The only remedy is to keep them cool. A little ice, near by, will cool off the atmosphere quickly.

MR. EDITOR:—"I would like to enquire: 1.—In case one colony of bees is affected with foul-brood, are not the other colonies of the apiary liable to take the disease? 2.—Can hives, that have been effected with foul-brood, be used again with safety; and, if so, what is the process of purifying them?" ENQUIRER.

1.—They are. 2.—We should not like to use such hives; fire will purify them the best.

Noblesville, Ind., March 7, 1878.

"I bought 4 colonies last fall; they wintered well in the cellar; a few have died; the hives inside are very dirty, *i. e.*, have something that looks like crumbled comb. Why did they die? The hives that I received from you were very nice."

L. M. WAINWRIGHT.

They were probably queenless, and had no brood to raise a queen from. She might have been killed while moving them. The 'dirt" you speak of seems to indicate that the combs were broken down, and the bees had been engaged in repairing them—hence the yellow dirt.

"When should Melilot clover be sowed? Please say in next JOURNAL." W. Z. M.

Sow in April or May, with any kind of grain, on any kind of soil. The earlier the better. It does not bloom until the second season, generally from July 1 to 10, but it remains in bloom from 60 to 90 days. It is an excellent honey plant.

We are in receipt of Nellis' Catalogue of Seeds, Plants, Bulbs, &c., for 1878, together with some samples of choice Seeds. He sends a sample of very desirable flower seeds with each catalogue, free to any who write for it. His address is A. C. Nellis, Canajoharie, Y. Y.

☞ We have received hives from G. W. Zimmerman, J. Oatman & Co., and Sperry & Chandler for our Museum, and intended to have given each a notice this month, but cannot for want of space till our next issue. Also a uni-comb observatory hive, from Sperry & Chandler, and several other things, which much interest our visitors.—As we have several other things now on the road, in our next we will make a "chapter" of it, and notice them all.

☞ Friends Dadant have sent us their Circular and Price List for 1878. They intend to import Cyprian, Corinthian and Java bees through Ginseppe Fiorini, in Italy, and will inform our readers in due time about their success with them.

☞ The Catalogue of Krætzer Bros. & Stauber's Concord Bee-Hive is on our desk. It contains much information that will be useful to the uninformed, and a complete Price List of the Concord Hive.

☞ Bees have wintered splendidly all over the country, and everything bids fair for a profitable honey season. The season is fully a month in advance this year.

☞ Correspondents should be careful to sign their name, and write their Post Office and State plainly. Many neglect this and hence are left to wonder why they get no answers to their letters or postal cards.

H. Scovell sent us a package, said to contain plants—but when it was received, the wrapper *only* was left. It was pasted, with the ends open. Such should be wrapped and the ends closed; and tied up with string, when letter postage is not paid.

☞ On page 72 it was stated that the walls of friend Dunham's bee-house were filled with *bran*—it should have read brase; coal-brase is a fine kind of charcoal. On page 92 the word "friend" was omitted in the first paragraph of P. H. Elwood's address, after "your country." In his hurry of writing it, the word was omitted. On page 76, 15th line from top, for the word owners, read *ounces;* a typographical error.

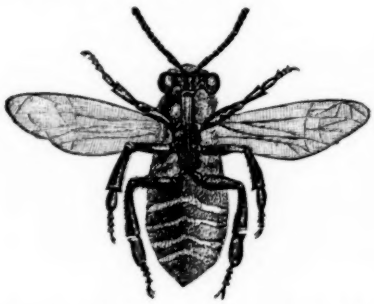
New Lisbon, Wis., Feb. 18, 1878,

"The bee-keepers of the north-western part of this state met at New Lisbon, Feb. 16, and organized the North-western Wisconsin Bee-Keepers' Association, and elected the following officers: President, J. R. Winkler; vice president, J. Boylan; sec'y. M. S. Clark; treasurer, J. Morrill. All reported their bees coming out of the winter quarters in good condition." M. S. C.

Production of Wax and Comb.

This subject is an intensely interesting study. Before the time of Huber, it was generally supposed that wax was made from bee-bread; but Huber fully demonstrated that bees could construct comb from honey without the aid of bee-bread. But, oxygen, being the support of animal heat, *is essential* to bees while building comb, because an extraordinary amount of heat must be generated to enable them to soften the wax and mould it into such delicate forms.

We herewith present a cut of the under surface of the Bee, showing the wax formations between the segments:



Dr. Donhoff states that in new comb the thickness of the sides of the cells is but the 180th part of an inch! Such delicate work is hardly conceivable; and yet, bees often make it in the dark, on cool, cloudy days or in the night—appearing never to rest.

Prof. Duncan, (professor of Geology), in King's College, London, in his work on the "Transformation of Insects," remarks as follows on this interesting subject:

"The production of wax is one of the most remarkable physiological phenomena of the organization of these *Hymenoptera*. It was generally thought, formerly, that the bees disgorged their wax from the mouth, and Reaumur certainly held this opinion; but John Hunter discovered the manner in which the wax was formed; and it is now evident that the bees carry within themselves this important building material.—The segments of the abdomen of bees overlap from before backwards, but when the margin of one is lifted up, two broad and smooth surfaces will be noticed on the uncovered surface of the next wing; these surfaces maintain during one part of the year two thin, white, and almost transparent laminæ, which are really composed of wax. The wax is really secreted by some small glands which are within the abdomen, and it transudes through the soft and smooth integument between the rings or segments. It would appear that the sugary matters which are sucked and digested by the bees are to a great extent transformed into wax, which is to all intents and purposes a sort of fat."

A writer in *Scribner's Monthly* thus describes the manner of comb building in a new swarm:

"When a swarm of bees is about to leave its old home and seek another, each bee fills itself with honey. After entering their new home, the gorged bees suspend themselves in festoons, hanging from the top of the hive. They hang motionless for about 24 hours. During this time the honey has been digested and converted into a peculiar animal oil, which collects itself in scales or laminæ beneath the abdominal rings. This is the wax. One of the workers, called the founder, then draws from its own body, by means of its clawed foot, a scale of wax. This it breaks down and crumbles, and works with its mouth and mandibles till it becomes pliable, and it then issues from the mouth in the form of a long narrow ribbon, made white and soft by an admixture of saliva from the tongue.—Meanwhile the other bees are making ready their material in the same way. On the ceiling of the hive an inverted, solid arch of wax is built, and from this the first foundation cells are excavated, all the subsequent ones being built up and around these, which are usually 3 in number. The size and shape of the cell is determined by its future use; but all comb is formed of 2 sheets of cells placed back to back, the partition walls of the 2 sheets always alternating with one another. If the comb is intended for brood, 25 cells of worker-brood, and 16 of drone, go to the square inch."

Neighbour, in his work on "The Apiary," says:

"Wax is the animal fat of the bees, and to produce it requires a considerable consumption of honey to supply the drain upon the system. To be capable of passing through the pores of the abdomen, the wax must, no doubt, be a liquid, oily matter, which, on making its appearance outside the abdominal rings, thickens, and exudes from under the 4 medial ones, in flakes like fish-scales, one on each side; so that there are 8 of these secreting cavities, which are peculiar to the worker, not being found either in the queen or drone.

"The rapidity with which comb-building progresses would lead to the supposition that there is a division of labour among bees, just as laborers convey building material to the artisans on the scaffold above. This work of comb-building is carried forward in warm weather, for a cold temperature interferes with the secretion of wax. Von Berlepsch declares that he has known cases in which a colony has built 300 square inches of comb in a single night!"

The Rev. L. L. Langstroth remarks as follows:

"It is an interesting fact, which seems hitherto to have escaped notice, that honey-gathering and comb-building go on simulta-

neously; so that when one stops, the other ceases also. As soon as the honey-harvest begins to fail, so that consumption is in advance of production, the bees cease to build new comb, even although large portions of their hive are unfilled. When honey no longer abounds in the fields, it is wisely ordered that they should not consume, in comb-building, the treasures which may be needed for winter use. What safer rule could have been given them?"

With all our ingenuity and skill we have been entirely unable to equal the bees as builders. Only fancy what delicate work it takes to produce comb, the 180th part of an inch thick!! True, we take the wax they produce, melt it up, spread it into sheets, and then configurate it, showing the base or foundation of the cells—but there our inventive genius, for the present at least, "takes a rest." In comparison with their workmanship, ours is as a thick sheet of wrapping paper to a sheet of tissue paper!!

Friend Carlin, of Louisiana, last week, showed us a small specimen of drone-comb foundation, that was the thinnest we ever saw. It was produced by the new machine made by Novice for J. H. Nellis. So there is hope yet for us to come somewhat nearer in workmanship to the bees. That was vastly different to that used by Novice, last year, in his small sections, which we, as well as friend King, described as having "a regular fish-bone" in it.

A friend lately suggested that Novice answered us by stating that the Sections "contained only a narrow strip under the top bar," and that we had never noticed the remark. True; but it was a small matter, and we did not think it necessary. But now we will remark that these sections measure 3⅞ inches from top to bottom; a measurement just made, shows that the foundation, as put in them by Novice, is 1½ inches deep—that is but little less than one-half the way down to the bottom! Whether wide or narrow, that is the *exact* measurement—but perhaps he uses it narrower now. Our remarks were based upon it, as he then used it. As to thinning it, Novice admits on the same page (317, Dec. No.) that his pastor had found some that had not been thinned by the bees. It was therefore unnecessary for us to re-assert what he admitted.

The use of artificial comb foundation for surplus honey was denounced at the North-Eastern Convention, by Capt. Hetherington and G. M. Doolittle, for fear it would injure the sale of comb honey. This is a note of warning in just the right time. To *endanger* the market for comb honey would be very unwise—to really *injure* it, would be a crime. Hence the importance of this matter. If used at all, for surplus it must be exceedingly thin and perfectly transparent.

☞ Chas. Hastings, of Carlisle, Iowa, says he has a new plan for holding foundation. He says, "I call it the convex wedge slot: thus **V** 1-12 inch at surface, and ⅛ inch deep. This form holds it so much better than a saw kerf. A little resin put into the dipping wax will be beneficial. No patent."

Harmless Adulteration.

The *London Times* makes the following remarks on the above subject:

"People will run after cheapness—they strive to get more than money's worth for their money, and the result is easy to fore-see. So long as there is a demand, there will be supply; and the excessive demand for cheap honey is now painfully felt in many directions. Many establishments are run on the plan of directly meeting this craving. They do it honestly and successfully, for the cheapening of goods is the development of manufactures and trade. Since the public pre-emptorily insist on a rate of prices incompatible with a fair profit and even the solvency of the dealer, the latter gives the public, he persuades himself, its money's worth with some harmless adulteration, sufficient to make the purchaser believe he is getting his goods cheap."

This is rather an ingenious way of putting it; particularly the *Times*' recognition of "harmless adulteration!" We fear our cotemporary hardly understands the question yet.

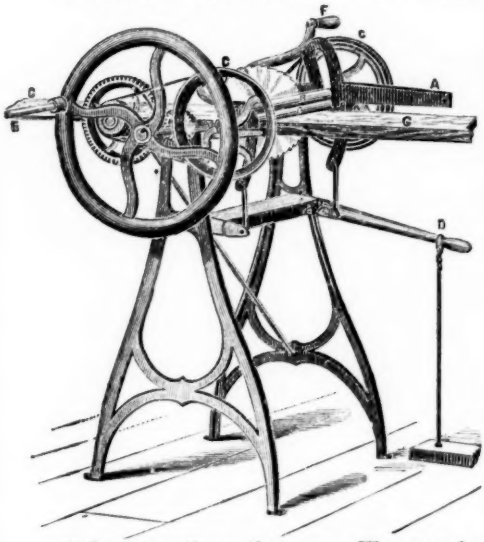
Something New.—We have received from M. Metcalf, Battle Creek Mich., a sample of his new comb-foundation for the brood chamber, made with standard linen, coated with wax for strengthing the comb. He has spent much time in experimenting with it, after having thoroughly tested wire, strips of metal, &c., &c. He has applied for a patent on his invention, and intends to secure to himself the benefits accuring from it. He has also been experimenting with linen, without a coating of wax, in the breeding appartment, and if he finds it a success, he will offer his invention to the public in due time. So look out for many vast improvments. Inventive genius is at work and wonders will never cease. Friend Metcalf is a practical and experienced Apiarist, and whenever he brings out anything, it is worthy a fair trial.

☞ "Bee-Keeping of to-day," by W. L. Reed, is added to our list of Books for Sale. All the manipulations of the Apiary are treated on, briefly, and in the absence of the larger works, it will be found valuable to beginners.

Hand Circular Rip Saw.

This machine, which is of untold value for making hives, and ripping out the stuff for honey boxes, is gotten up by W. F. & John Barnes, and is for sale at this office.—Its peculiar feature is that the saw, mandrel and balance wheel, slide together on planed ways, similar to a lathe. The saw is easily set to rip any width desired, and for those making their own hives, honey-boxes, &c., it is indispensable. It occupies but little space, and is made of cast steel and iron—only one piece being of wood.

The price is only $50, and no one who has used one would consent to do without



it for many times that sum. We append a letter that will explain itself:

Carlisle, Pa., Feb. 4, 1878.

"Some time ago, we purchased one of Barnes' Hand Rip Saws. It has been in constant use for 6 months, and does all that it is recommended to do.—We rip door-tenons, rabbet shutters and blinds, bevel mouldings,—in fact, do everything that can be done on a machine run by steam. We carry on carpentering extensively—running from 7 to 15 hands.—This machine has been examined by thousands, and I think will be the means of introducing them into this section." S. WETZEL & Co.

The lumber is placed between two feed rollers, "B. B.," which feed it to the saw. The feed can be made slow or fast as the operator may desire, by the cone pulleys on feed rolls "C. C."

These rollers are self-adjusting to thick, thin, or uneven lumber. The saw can be instantly set to cut any width desired from a board or plank. The machine will feed to the saw, stuff from ⅛ inch to 3¾ inches in thickness, and ¼ inch to 19¾ inches wide. With it, one man can do the work of three using the old hand-saw. Unskilled operators can do the work rapidly and truly. Unlike the hand saw, the work is square and true as that done by steam or water-power saws, and as easily dressed with the plane. An operator with ordinary strength and endurance can easily rip, line measure, 600 feet of 1 inch pine per hour, or 6,000 feet in 10 hours.

By changing the feed to correspond with the thickness or hardness of the lumber, hickory, maple, ash, walnut and cherry can be sawed with ease. The speed cut (line measure) varying from 150 to 600 feet per hour. These are not rates given that a man can only follow for a few minutes, but actual days' work rates that can be followed up from day to day.

Honey as Food and Medicine.

This is the title of a new pamphlet to be issued about the middle of the present month, by the Editor of the AMERICAN BEE JOURNAL. Price 10 cents, postpaid.

We claim no credit for issuing this little pamphlet—though it is just what is needed now, to scatter information on the subject of honey—and increase its use.

At first, we were induced to promise to deliver a public Lecture, in Burlington, Iowa, on May 8th—under the auspices of the Western Illinois Bee-Keepers' Society. After agreeing to do this, we were informed that the Society had selected as the subject, "Honey; a healthful article of diet." And that very day came a letter from Wis, from friend Claussen, as published on page 129 of this JOURNAL, asking us to write on the same subject. So that no credit belongs to us in the premises. We have simply produced it, because it was demanded.

After the introduction, we have given a brief history of Honey and its use among the ancients; the nature and properties of Honey; Honey as food; Honey as medicine; and have added a lot of Receipes for Honey Cakes, Honey Beverages, &c.

Any one having good Recipes for anything nice or desirable with honey ingredients will confer a favor by sending it to us *at once*. In return therefor, we will present them with a copy of the pamphlet as soon as out. We do not wish any Recipes that have been published in the AMERICAN BEE JOURNAL—we have all of them now. For prices by the quantity, for scattering, see page 129 of this JOURNAL.

Marketing Honey.

This department will be devoted to items of interest concerning Packing, Selling and Shipping Honey and Beeswax.

☞ The honey in Prize Boxes and Crates, sent to the Paris Exhibition, by Messrs. Thurber, was selected exclusively from the product of friend P. H Elwood, of Starkville, N. Y. This is certainly a compliment to the producer, and we shall watch with interest the report of the Jury and publish its language *verbatim*.

☞ An important alteration has been made in Hoge's Carrier, substituting spiral springs for rubber balls. These carriers can now be made at home by any one, after obtaining a pattern, at a considerable reduction in cost. They are not intended to be used for car-load lots, but simply for distributing trade, in say half-a-dozen crate lots. They can be returned to the producer and used over and over, as often as necessary.

☞ Honey dealers, we presume, like all other merchants, have a varied demand to cater to, and as a consequence are obliged to sell honey in all shapes and conditions; sometimes some want honey without, as well as with, glass. We see no objection to their supplying any and all demands that may be made for honey, provided the want be for the genuine article.

☞ They say, "a wink is as good as a nod to a blind horse;" we hardly think that Capt. Hetherington did so much as wink at friend Betsinger about the working of wire into foundation combs. A wink must have been given, though, at the National Convention, and friend Betsinger must have *heard* it, for we see by last month's *Gleanings* that he has purchased a machine with copper rollers, for the express purpose of working in the wire! Well; so wags the world. Some originate—almost all imitate.

☞ Mr. Dadant asks the question in the March number of the JOURNAL: "What kind of honey was sold by an American firm, at Bremam, for the small price of 97 cents per gallon, or 8 cents per lb?" We would say that strained honey from Cuba, San Domingo, Mexico, Lousiana and Florida, is offered freely at 87 to 90 cts. per gallon, and American dealers having foreign orders to fill, buy the honey from the 3 first countries "in bond" at 67 to 70 cts. per gallon. Lithgow Brothers, of Porta Plata, are in the habit of buying strained honey from the natives, at 30 to 35 cts. per gallon, to which must be added the duty levied by their government. Friend C. Parlange, of Pointe Coupee, La., has now some honey in New York, which he would sell for less than 8 cts. per lb.

Freight on Honey.

Messrs. H. K. & F. B. Thurber & Co., of New York, are just now engaged in a vigorous and intelligent effort to secure a change in frieght classification of honey. They claim it is ridiculous to rate comb honey as first-class, as nearly all transportation companies do, and exact a release from the shipper, releiving companies from all loss of breakage or leakage occurring in transit.

Mr. F. B. Thurber is the president of the New York Roard of Trade and Transportation, and therefore particularly well fitted to accomplish this important work.

There has generally been a discrimination made in classification, where releases were given. Take, for instance, the article of show-cases; they rate as first-class, but if released, they rate as fourth. For our own part, we have never been able to reconcile the justice of classing syrups as fourth, and strained honey in bbls. as second, or why transportation companies, who decline all responsibility of safe delivery should charge us more than fourth-class freight for our honey.

This change in the freight tariff would save honey producers many thousands of dollars in moving their crops next year; and we trust that every one who has the common interests of the bee-keepers at heart will cooperate in this matter.

☞ A letter from a honey dealer in Leith, Scotland, dated Feb. 22, 1878, is on our desk. It states that "comb honey is subjected to such severe handling in transit, that it is received in bad order, and is unsatisfactory to customers." He also says that "people are very suspicious and prejudiced against American honey since the late adulterations." The remedy against such breakage seems to be in using a good Honey Carrier—such as that invented by Mr. Hoge. Is it not?

Sundry Questions.

San Diego, Cal., Jan. 15, 1878.

"This winter has, so far, brought an abundance of rain, and our prospects are good for crops of all kinds. Probably one-half our bees have died, out of about 25,000 colonies in this county, a year ago. So that I do not think our production the coming year will equal that of 1876, when we exported over one and a quarter million pounds.

1. What is about the average price, good comb honey has paid producers the past season, and what for extracted honey?

2. What has been the freight and charges, all told, from San Francisco to New York?

3. About what per cent. of breakage has occurred?

4. What is the freight, &c., on extracted honey, in casks, *via* Panama, from San Francisco to New York; and has any breakage or loss occurred?

5. What is the best size of package (cask) to ship in?" CHAS. J. FOX.

1. The average price of comb-honey this season ranged from 15 to 22c. for similar quality to California honey—the style of the package, to a large extent determing the price; extracted 7 to 13c.; the lighter grades, such as Clover and Basswood, bringing the highest prices.

2. Freights are for comb-honey $2.50 per 100 lbs; extracted, $2.00.

3. With comb-honey, when packed properly and well secured in cars, the loss from breakage is trifling.

4. In former years, contracts have been made to transport honey from San Francisco to New York, via Panama, at 1 to 1½c. per lb. for extracted honey.

5. In the East a wooden-bound white-wood barrel is generally used for syrups and molasses, holding 10 to 20 gallons, which when rinsed with melted paraffine wax, makes an excellent package, and perhaps the effort now being made will get extracted honey through at 4th class rates.

Honey in single boxes will sell better than any other, and if shipped in crates as used by friends Doolittle and Betsinger, 12 boxes in a crate, either boxes or crates glassed, will doubtless find ready sale. Such will do away with the glass jars, and close the door on adulteration generally.

The cry is for honey in neat, cheap, and convenient shape. Friends Hetherington & Elwood were the first to adopt progressive ideas about marketing honey, and their brand of honey is now sought for and made the standard of excellence. This season their crops averaged about 21 cents, gross weight—or nearly 36 cents, net weight.

For the American Bee Journal.

Marketing Extracted Honey.

Attention is turning to the best means of marketing comb honey, all over the country. It is but a short time ago that honey could be sold in any style of package, at very good prices—now the tendency is towards small packages. The smaller and more attractive the package, the more ready the sale.

This should give the producers of extracted honey the "cue" to the situation.—Heretofore, extracted honey has been put upon the market in glass jars and cans; in the former, while it shows to the best advantage, it soon candies, and becomes unattractive—and consumers pass it by for comb honey.

We have run our apiary thus far for extracted honey, but much of it candies on our hands every year, which it is necessary to liquify before it can be sold. It has been our aim to *try* to educate people that in that shape was the very best way to purchase it; and failing to have many adopt our views, I have concluded to go to the root of the matter, and try to educate the rising generation, so that when they come to maturity they will know the qualities of honey just as we now know the qualities of butter and cheese.

To do this, it has been my idea to put pure candied honey on the market in small, cheap packages. Now, we have near us, machinery for turning out small round boxes from white birch wood, and of various sizes, to hold from a thimble-full up to a pound. For an experiment, we have tried a size that holds 2 ounces. Coat the inside with parraffine, fill with candied honey, put on a pretty label, with a few facts about honey, and put on a ribbon for a bail, and dozens of them are readily disposed of at any country store for 5 cts. each.

They take their places beside oranges and lemons. We don't know how long they will have a run, nor how many months in the year. If the demand was sufficient, it could be kept for sale the year round, by keeping in a cool place during the hot months. And, why wouldn't ice cold, candied honey go with ice cream, or other ice cold dishes, drinks and relishes in warm weather?

These wooden boxes are pretty, and can be sold cheap. Our 2 ounce boxes cost $1.30 per gross. Labeling, packing and commission to dealer will be 2½ cts., leaving 2½ cents for your 2 ounces of honey, which equals 24 cts. per lb.

Should there be a call for it, boxes for 10 cts. up to 25 and 30 cts. could be furnished at proportionately cheap rates. Candied honey looks much more *at home* in such a box, and can be eaten out of it more readily than from glass. J. H. MARTIN.

Hartford, N. Y.

Foreign Notes,

GLEANED BY FRANK BENTON.

Translated for the American Bee Journal.

Character of Baron Berlepsch.

WRITTEN BY RUDOFF MAYERHOFFER, EDITOR OF "DER BIENENVATER," PRAGUE, BOHEMIA.

Baron Berlepsch, whose decease we mentioned in a previous number, was, next to Dzierzon, the greatest bee-master of Germany. Regarding Dzierzon as the discoverer, Berlepsch is the real founder of the movable-comb system. At first, skeptical—holding himself aloof from the views and discovery of Dzierzon, he was soon—after having become acquainted with their correctness—their warmest and most eloquent defender.

Berlepsch possessed a combative nature, such as we see in Luther, Ketteler, and Johannes Scherr. With him, the statement: "To be a man, is to be a battler," became really truth. He fought sharply against any one's disposition to boast, against assuming ignorance, low dealings and swindling. It was he, especially, who brought about the revolution in German bee-culture and gave it the impulse which produced such splendid results.

It is easily seen that many became hsi enemies, particularly those who felt themselves attacked. His utterance: "*Keulenschlage austheilen*," was misinterpreted, and employed in placing him in an odious light. His style is a pithy, strong German; Berlepsch never descended to anything of a sickly, sentimental order; he always had too much esteem for his reader to torment him with miserable rhymes or idle words.

Berlepsch's apistic and general knowledge was colossal; he was an admirable master of the ancient languages, Latin, Greek, and even Hebrew. What a pity he lacked the knowledge of modern languages! His views were thereby confined, for he was deprived of the apiarian knowledge of other cultivated people; he valued too highly that of the Germans; and so, unwittingly, he helped to increase the German bee-keepers' self esteem, for which, however, he received few thanks.

Berlepsch's efforts were directed towards bringing bee-culture back to the important influence it once occupied in our fatherland and which, for example, it now possesses in the Union; to prevent its decline, by removing the damaging and often swindling operations that were connected with it.

As a means to this end, he pointed out that bee-culture must be followed by the economist, supplied with intelligence and capital, and must receive universal attention at institutions of learning. How far this has become a reality, every one who has ears and eyes can himself answer. Yet, we will not stop and rest; if we complete this work left as it were to us, perhaps it will be possible for us.

He always looked from a material standpoint, and yet—does it sound like irony?—he never obtained pecuniary benefit from bee-culture; for him it was only a pleasant occupation, serving to increase his knowledge and enabling him to be useful to those about him. In this, Berlepsch showed himself to be a true nobleman.

Berlepsch's private life could by no means be termed a pleasant one; it was and remained a struggle. He experienced the truth of "the old and yet ever new story;" and in science he sought comfort, which, indeed he found, even though only partially.

At one time, his health appeared to be nearly indistructable; yet, in July, 1868, he was deprived of this blessing. A sudden attack of apoplexy, which in a great measure crippled him, confined him from that time on, with few interruptions, to the sick-bed. So far as practical bee-culture is concerned, he was dead; but he still lived.—Willingly and with pleasure he gave answers to questions addressed to him, and also took an active part in all questions of great interest. It was a fortunate thing for him that his amiable and talented wife proved a self-sacrificing and affectionate companion. It was only thus that he was enabled to bear his afflictions.

He appeared and spoke for the last time at the convention of German and Austrian bee-culturists, in Salzburg; in 1872, celebrating at the same time the fiftieth year of his connection with bee-culture. From that time on, he avoided more and more all publicity; his suffering increased from day to day, until finally, on the 16th of September, last year, Death, as a welcome guest, released him.

If we glance over the work of Berlepsch, we must admit that it constitutes a marked epoch—not only for the bee-culture of Germany, but also for the whole bee-keeping world. Berlepsch will ever be held in remembrance, for he has reared for himself a monument that outlasts marble and iron. As long as bees exist and man cultivates them, so long will the name of Berlepsch be heard. FRANK BENTON, *Translator.*

Discussion upon Hives in Germany.

At the last convention of German and Austrian bee-culturists, the subject of hives was discussed.

Dr. Dzierzon declared himself to be in favor of hives constructed to contain 2 colonies; the inner walls made of wood, the outer of straw; of medium height; the frames to be taken out at the front or rear side; and so arranged as to permit the increase or decrease in size of the brood apartment by means of division boards.

Herr Lehzen, Hanover, did not agree with Dr. Dzierzon, but claimed that for the north of Germany, straw was best for hives. He claimed that where the bee-keeper practiced moving his bees about, any other form than the old-fashioned straw hives would consume much time in handling, besides costing more, and not being as durable.—He stated that with the heath bee-keeper,

turning up the hives to work with them does not interfere with the labor of the bees, since this bee-keeper works with his bees from 3 to 6 o'clock in the morning, and from 7 until 9 o'clock in the evening; and the speaker advised no one to handle stocks at any other time.

Herr Rabbow, of Howendorf, referred to the cheapness of the hive as a very important element, claiming that bee-culture will be followed extensively only when hives become very cheap. He considered top-opening hives far more preferable.

Dr. Dzierzon stated that with movable-comb hives, one could operate without hinderance to the bees, and particularly recommended, as the best time to handle bees, that portion of the day when they are flying most briskly.

Herr Frey, of Nuernberg, stated that the high price of movable-comb hives is what prevents their general adoption. He then described a hive whose walls were of wood, surrounded for winter with a packing of straw, or moss.

Herr Mayerhœffer, editor of *Der Bienenvater*, reports the discussion and then makes the following remarks:

"One thing was forgotten. The form of the hive must facilitate the greatest possible production of honey; and this is the case only with hives where the room for surplus honey is given in the direction that the bees are naturally inclined to store it, *i. e.*, above the brood chamber. This is particularly the case in the production of comb honey, for warmth is necessary, and that is secured only when it ascends from the brood chamber into the surplus honey department. Opening hives at the top is always preferable to side-opening. Among all forms, the two American hives, the King hive and the Langstroth hive, appear to me to nearly meet the requirements mentioned. Both of them are storing-hives, top-opening, and with removable honey-chambers. The American bee-keepers long ago attained cheapness in the manufacture of hives; a complete Langstroth hive, with 10 frames, is furnished, ready to nail together, at about a half dollar, or 1 florin, Austrian money."

There were about 300 members present at the 22nd "*Wanderversammlung deutscher und oesterreichischer Bienenwirthe*," held in Linz. Of course they had a glorious time. Count Visconti di Saliceto, editor of *L'Apicoltore*, of Milan, had 200 Italian queen bees, and 30 swarms on exhibition.

Der Bienenvater aus Bœhmen, (Prague), for Nov. and Dec., contains the translation of a long article on "Wintering Bees," by Chas. Dadant; and the Oct. number reproduces one on the same subject, by another American bee-keeper.

In Austria there is a law requiring sugar-refiners to close the doors and windows of their manufactories and store-houses, by means of wire-clote, in order to prevent bees from entering and perishing there. Here, the refiners employ the wire-cloth to retain the bees, when the latter have entered the manufactories, and to facilitate their destruction.—*L'Apiculteur, Paris.*

Southern Notes,

GLEANED BY

W. J. ANDREWS, - COLUMBIA, TENN.

Chattanooga, Tenn., Jan. 28, 1878.

"My bees are in splendid condition. Hives are all full of stores. Nearly all have commenced brood-rearing. One colony has its second set of brood, capped. Maples are in bloom here, and it seems right curious to hear the hum of the bees, in the trees at this season, (midwinter). I am 'fussing' with my bees nearly every day. After studying over it, I am convinced that it is much the best to have the cap, or upper story supported by a strip, say 1 inch from the top, all around, outside the wire. It will keep the moth out of the cap, and that is a big item.—If the cap is supported by a strip, nailed inside the cap; unless it is all around, it will let the millers into it, and then they will fill it with eggs, to the distruction of many pieces of unprotected comb. With the present prospect, I shall be able to double my number of colonies by the time clover blooms, and get a good yield from that source. Am delighted with the prospect." S. C. DODGE.

Cave Spring, Ga., Feb. 9, 1878.

"I want to put my honey up in such a shape that I can sell it. Very few people use honey in Georgia, but I think it is owing to the shape it is in.—It is a very common thing, about the middle of May, to see men with water buckets, with a cloth tied over them, walking our streets with honey to sell. It is taken from the old log or box hive; new comb, old comb, young bees and honey, all well mixed, and fermenting! I think this is the reason why our people do not use more honey.

J. S. DAVIS.

[That is just what has killed the sale of honey in hundreds of places—the slovenly way in which it has been offered for sale. But when put up in a tempting manner, the old demand, much increased, however, will, no doubt, be found for good honey, in marketable shape,—ED.]

Small vs. Large Hives.

There is no point in bee-culture more vital, yet no one on which there is so much diversity of opinion and practice. The use of the movable frame is supported by the opinion and practice of all progressive bee-keepers. Yet, as to the size and shape of the frame, and consequently of the hive, there is the greatest want of harmony.

The Editor of the JOURNAL, (vol. XIII, p. 123), says: "Opinions differ as to hives. Any hive that you are accustomed to and can manipulate, will do. More depends on proper care than any particular style of hive." And this opinion is shared by many.

In order to approximate the truth on this subject, we must, forgetting all names and authorities, go back to the nature and habits of the bee, and pursue the inductive method. A hollow tree is Nature's hive, and conforms to the habit which Nature has impressed, for bees always form a round cluster, in order to preserve heat and vitality; and the receptacle which surrounds them should aid, and not tend to thwart them in their efforts. The heat which is formed by the cluster should be arrested by a wall, the same distance from all parts of the cluster; otherwise, the warmth cannot be equalized, and is being constantly dissipated by the colder air in the farther parts of the receptacle.

In making artificial hives, the nearest we can conform to the exact demand is to make the hive perfectly *square* and sufficiently *small*, to closely enclose the cluster in the ordinary winter condition and average numbers. Where there is, in the harvest season, a plethora of bees and stores, we must provide upper receptacles and deplete with the extractor, &c.

It is the nature of the bee to work with more energy in a hive that somewhat confines them—for they enjoy the prospect, as well as do men, of having only a reasonable task before them, and of being well able to accomplish it. It is very certain that in such a home they are better able to protect themselves against their various enemies.

As a conclusion then, we suggest that laterally a bee-hive should be perfectly square. If it is asserted that Mr. Langstroth favored a hive long from front to rear, it may be replied, that Mr. Langstroth's practice varied at different times. His hive, at first, wss 14¼ inches from front to rear; 18⅛ inches from side to side, and 9 inches deep. After Mr. Quinby called his attention to some box hives he had purchased, that were made to lay on one side, and that bees wintered in them well, Mr. Langstroth then apopted a hive 24 inches from front to rear, 12 inches from side to side, and 10 inches deep. He next adopted a hive 18⅛ inches from front to rear, 14⅛ inches from side to side and 10 inches deep. See his book, 3rd edition, p. 330 and notes.

His object seemed to have been to adopt a hive suitable for a *shallow* frame, and large enough in single story for a full colony and its winter stores.

But to contract the Langstroth hive, so as to make it square or the same length from front to rear, as from side to side, would necessitate the constant use of a second story, except for nuclei or very small stocks.

This, again, would conform to nature, for ventilation is absolutely necessary to the bee-hive, in order to carry off damp, noxious, and heated air, both in winter and summer. What better ventilation can be given than to allow the heated and corrupt air, which is lighter than pure air, to ascend and pass off from the bees and brood, through the upper store combs. In hot weather the heat ascends readily from the vital breeding part of the hive; and in cold weather, the bees, as they retreat from the entrance, get further up among the life-giving stores.

For the South, in order to be successful in bee-culture, it is necessary for us to have a two-story, tall hive. The Langstroth with the upper story in constant use is too large for an average stock.

If the above premises are correct, the best hive generally, and especially for the hot climate we have, is the two-story, laterally square hive, of moderate dimensions, say with a shortened Langstroth or the Gallup frame. OSCAR F. BEDSOE.

Grenada, Miss., March 7, 1878.

Dividing Stocks

The following is a good method for dividing bees, and one that is both practical and easily performed by the experienced:

After providing an extra hive with empty frames; or better, frames filled with comb, proceed to open the hive to be divided, and after subduing the bees with smoke or otherwise, lift out the brood combs with all adhering bees, until ⅔ of all the brood is removed, placing the same in the new hive and being careful not to remove the queen.

Fill all unoccupied space in both hives with comb frames. Locate the new hive some distance from the old. All the old bees will return to the parent hive, but enough young bees will remain to care for the brood.

A fertile queen may be given the new colony after 48 hours, or about sunset on the second day, by quietly setting her on one of the brood combs. The bees, being all young, will accept her and the work is done.

We introduced many queens to new colonies, last season, as here given, without the loss of a single queen. The new colony will not work much for a time, but is generally equal if not superior to the parent stock, in a few days. S. D. MCLEAN.

Culleoka, Tenn., March 9, 1878.

Chattanooga, Tenn., March 20th, 1878.

"I am of opinion that the reason why some comb-honey that is made on foundation starters, contains a tough center called "fish-bone," is caused by the wax having been subjected to such *high pressure* when rolled in the machine, as to render it *tough* and *horn-like*. If the rollers of the machine are adjustable, they should be slacked enough to make a good impression for the bottom of the cells, but not allowed to raise a septum between them. For starters, I should prefer *soft-rolled* foundation, but for the brood-combs, I would prefer thick *hard-rolled* foundation." S. C. DODGE.

Conventions.

San Diego Convention.

The San Diego, California, Bee-keepers' Association met in San Diego, Feb. 7, with a good attendance. President Fox in the chair, R. G. Balcom, Sec'y.

The minutes of last meeting were read and approved.

The committee appointed to apply for a reduction of tax on bee property, reported a reduction of 20 per cent.

The next thing in order was the reading of the

PRESIDENT'S ANNUAL ADDRESS.

GENTLEMEN:—The past year has been the most disastrous to the honey producing interest ever known in this section of the country. In 1876, we produced and exported in San Diego county over one and a quarter million pounds of honey, while in 1877, we did not export any, but imported considerable honey and sugar to feed our bees, in spite of which, the number of colonies has probably been reduced from 25,000 to less than 15,000.

Several causes have combined to bring about this result:

First.—The past winter, 1876-7, was one of the driest on record, and the small amount of rain that fell was all after the 20th of January, and was of little benefit to many of our honey producing plants, cutting off our early spring feed.

Second.—The spring was unusally cold, with frosts and drying winds, so that many of the flowers were blighted or did not contain any honey, injuring our late spring feed.

Third.—The phenominal hot spell of June, consisting of 5 consecutive days of such intense heat as has seldom occurred here, the thermometer ranging from 100° to 105°, and the relative humidity as low as 5 to 7 per cent. completed the mischeif, and our most reliable summer feed was ruined. After this, only a few summer and fall flowers remained, and comparatively few colonies gathered enough for their own consumption.

This unfortunate combination of events is not likely to occur again for many years; and we may feel reasonably sure, for some time to come, that our country will retain its old reputation as the best honey-producing place in the United States.

The outlook for the coming season is unusually favorable. We have had abundant rains, coming frequently in soft, light showers; the ground is in splendid condition; the grain, of which an unusually large breadth has been sown, is looking finely; grass is very good, and the honey-producing plants are in very thrifty and fine condition.

As we shall probably have a good honey season, we must look ahead and make plans and calculations as to the best way of securing and marketing our crop, for it is only very foolish persons who go on from year to year, doing the same under all changes of circumstances.

Three years ago, when many of our apiaries were first established, honey sold readily at high prices, and we did not think we could overstock the market with an article so fine as our honey was acknowledged to be.

But times have changed; there has been a great increase in production in the eastern states, and the quality has been much improved; hard times and general economy have reduced prices, till we can, with difficulty, sell our comb honey at one-half of former prices.

Fashion has also changed. Eastern apiarists now generally put comb honey on the market in small packages, protected with glass, so that they secure a more ready sale and higher prices than we can. Another great drawback against us is exhorbitant trans-continental railroad charges.

With these difficulties to contend with, we cannot place our best comb honey on the eastern markets, in competition with the local supplies, and realize enough to make producing a paying business.

To remodel all our hives and section boxes; to pay a high price here for glass and the freight on it east, and in other respects conform to the eastern fashions, would cost us more than we could afford, especially during the coming season.

As an evidence of the disadvantage we labor under, in not conforming to the new style of putting up comb in small packages, I quote from the report of the Michigan Convention, in the AMERICAN BEE JOURNAL for January, 1878:

Mr. Fahenstock, of Toledo, said: "I sold beautiful honey in wood sections for 13c., in glass boxes it sold readily at 20c. per pound.

Mr. T. G. Newman, of Chicago, said: "The larger boxes of yore with many combs are rapidly going out of demand, and now it is difficult to dispose of those having more than 2 or 3 combs at any price.—The objection to the Harbison sections are:

1. Though readily divided by grocerymen, it puzzles them to devise means to pack such combs without side protection with other goods, and deliver to their customers without seriously damaging them.

2. For the retail stores, not being protected from dust and dirt, honey in these frames soon becomes unattractive to customers.

"Dr. Whiting, of Saginaw, said he had put up his honey in cases, but sold for 17c.; when he saw honey no better than his, put up in a different case, sold for 25c., he couldn't stand it."

And a private letter to Mr. E. W. Morse, our vice president, from Mr. Rufus Morgan, of North Carolina, says of comb honey:

"Comb honey gets to the retail trade so badly broken up that but few care to deal in it, and it costs so much expense in handling, one break down will disgust a dealer forever."

In the report I submitted to the last annual meeting of this Association, I took strong ground in favor of our apiarists going into the production of extracted or strained honey, instead of comb, and I am still more convinced of the advantage of this change. My reasons then against comb honey were:

1. The greater freight charges, because we were compelled to send by rail instead of water, and pay high freight on a large percentage of dead weight.

2. The greater cost of putting up.

3. The difficulty of shipping, except in car-loads, and the large amount of breakage.

4. The great difficulty of distributing in

small lots to retail dealers, and from them to consumers.

I have prepared some figures, showing the relative cost of shipment from San Diego to New York, by rail, from San Francisco, of comb honey in cases weighing 75 lbs. gross, or 56 lbs. net; and extracted or strained honey in casks, weighing 300 lbs. gross, or 280 lbs. net, by water round Cape Horn.

At these weights, 1 cask will equal 5 cases, and the calculations are as follows:

One cask costs here	$ 2 00
Freight from San Diego to New York, by water, 300 lbs. @ 1½ cts.	4 50
Total cost, packing and freight,	$ 6 50
Cost per pound of net honey, 2 32-100 cents.	
Five cases, with nails and paper, 26 cts. each	$ 1 30
Twenty section boxes with nails, at 11c. each	2 20
Freight on 350 lbs., gross weight, at 3c.	10 50
Total cost of packages and freight,	$14 00

Cost per pound of net honey, 5 cts. Difference in cost and freight per pound, 2 68-100 cts. Besides this, is the labor of making section boxes and packing cases, packing the honey, and the freight on 50 lbs., extra dead weight, from San Diego to and from the apiary.

The prices of honey, quoted in the AMERICAN BEE JOURNAL, for January, 1878, in New York, Cincinnati and Chicago, averaged 15c. for comb and 10c. for extracted.—We cannot expect to realize here, next summer, more than 8c. for comb and 5c. for extracted; the difference in cost of preparing the two kinds will be a large part of the difference in these prices.

This whole argument, so far, is based on bees making as many pounds of comb as of extracted honey, but the experience of all who have used the extractor proves that the yield is very largely increased by it. If it is only increased 50 per cent. it would, no doubt, pay better than producing comb honey.

But there is another side to the question that has not been much discussed: The advantage of making strained honey and wax for sale.

On this subject I have the opinion of Mr. Rufus Morgan, in the letter quoted from above. He says:

"Now, in your section (and I am open to evidence to the contrary) the opinion I have always held is, that the true profit of the apiary is from *wax*, the honey to pay expenses.

"I could manage four times as many hives run for wax as for comb honey, and seven or eight times as many as run with the extractor."

"Now let us see how we can make out the case. Suppose the busy season for the production of surplus honey to last fifty days. My observation in this country is that with Harbison hives, fitted with main frames in the top, instead of section boxes. Two, good, experienced men can extract, by hard work, about 2 casks, of 280 lbs. net, each, per day. This would be, say, the yield of 4 good average hives, allowing them to produce 50 per cent. more than they would of comb honey. In the season of 50 days, by steady work, the 2 men could attend to 200 hives, or an average of 100 hives to each man. Now, to carry out Mr. Morgan's estimate, the 2 men could take out comb honey from 400 hives, and this is our experience also. From how many they could simply cut out the honey, put it into a strainer, barrel the honey and lay aside the wax to be tried out in a more leisure season, I cannot say; but do not think his estimate of 800 hives an extravagant one, as it would only require 16 hives per day to each man. Now, comb honey will yield from 8 to 10 per cent. of wax, which is worth 25 cents per lb. here, or if bleached, a very simple process, nearly double that price. The bleaching consists in simply exposing the yellow wax to the sun in a long tin trough, slightly inclined so that it will melt and run down slowly, and it is worth, I understand, 48 cents per pound in New York.

In the present condition of the honey business, the low prices we can realize here, and the high price of labor, we must run our apiaries as cheaply as possible. If a man has only 100 hives, he can realize more honey, and make more money by extracting than by straining, or, in my opinion, than he can make by producing comb honey. If, however, he has 400 hives, I believe he can make more money by simply straining and selling the honey and wax than in any other way, because he can do all the work himself, without hiring any help.

It is well known that the cheaper an article is sold, the greater the demand. In a letter from a firm in Liverpool, they told me that if we could put our strained honey on the market at 8 cents per lb., the demand would be unlimited. It costs about 2 cents per lb. from here to Liverpool, including all expenses. If, during the coming fall, ships should be loaded from here to Liverpool with wheat, for our grain crop promises to be large enough to justify this, we could send honey much cheaper, which would leave us a fair price. Good, strained honey is worth now, from 10 to 12 cts. per lb. in Liverpool.

From all the above facts and arguments I draw the conclusion that our future prosperity as honey producers depends on our making only as much comb honey as will supply the Pacific coast, and by economizing in labor, materials and freights, ship direct to New York and Europe a fine, pure article of strained honey, which will sell low enough to create a large demand, and at the same time afford us a good price for production. The former prejudice against *candied* honey has given way, as I foretold a year ago it would, in view of the fact that only perfectly *pure* honey will candy. Our sumac honey, which all experienced persons prefer to any other, and which forms a large proportion of our production, candies soon after being barreled, and will, I think, become the favorite in the market. I am corresponding with parties in the east and in Europe, and will give the information to the Association soon.

Since writing the above, I have received a long and very interesting letter from Thurber & Co., of New York, in regard to the style of putting up comb honey for the eastern market. We may be able, before the commencement of the coming season, to obtain such information and make such arrangements as to enable our apiarists to conform to the present demand, and in this

way get as good a price for our comb honey in New York and other markets as eastern producers, though we cannot avoid the exorbitant freights that make so heavy a discount on our profits as producers here.

C. J. Fox.

The reports of the secretary and treasurer were then read and accepted.

The corresponding secretary read letters from Mr. R. W. Waterman, of San Bernardino, to the effect that a Bee-Keepers' Association had been formed in that county, of which he had been elected secretary, and asking the co-operation of the Association to procure from the Legislature an act to prevent the spread of and extirpate the disease known as "foul brood" among bees, which now prevails to some extent in San Bernardino county, and is very contagious and destructive. Also an act to prohibit the manufacture and sale of adulterated honey, and other desirable legislation.

The meeting requested the president to correspond with Mr. Waterman and the Hon. Mr. Pauly on these subjects, and endeavor to secure the co-operation of other counties in Southern California.

A letter was also read from M. J. S. Harbison, asking the Association to assist him in procuring for the ensuing year a just valuation as a basis for taxation on bee property. E. W. Morse was appointed a committee to confer with Mr. Harbison on the subject, and lay it before the Board of Supervisors.

A letter was read by the president, from H. K. Thurber & Co., of New York, containing valuable suggestions in regard to the present mode of putting up strained honey, in the Eastern States, and the president was directed to obtain further information on the subject, with a view to recommending a change in our method of putting up comb honey.

A letter was also read from Rufus Morgan, of North Carolina, to E. W. Morse, giving some information on the subject of making strained honey and preparing wax.

The following were elected directors for the ensuing year:

E. W. Morse, R. G. Balcom, Chas. J. Fox, J. McG. Frazier, A. P. Herrick, W. W. Terry, J. P. Jones, L. L. Lynch, E. C. Emery.

The newly elected directors organized by electing the former officers: Chas. J. Fox, president; E. W. Morse, vice-president; R. G. Balcom, secretary and treasurer, and appointed these officers an executive committee to manage the business of the Association, and then adjourned.

North-Eastern Convention.

(Concluded.)

THURSDAY, FEB. 7, 1878.

L. C. Root read a paper on "Parasites of the Honey Bee." He thinks those parasites have been the cause of a great deal of the mortality in winter, and yet, they have destroyed to a great extent, the malady known as foul brood, which has been the greatest scourge.

Mr. Van Deusen suggested that those who lose bees in winter, examine them to see whether they are covered with parasites.

Mr. Curtis invited the convention to meet in Utica, next year. Balloting resulted as follows: Syracuse, 21; Utica, 15; Albany, 4. Syracuse was declared chosen.

"*Are the Italian bees superior to the blacks?*

Mr. Doolittle says the two races are like some men. One will not work unless he can secure dollars, while another is satisfied to glean pennies. The Italians will gather in times of comparative dearth, while the blacks seem discouraged and are idle.

Mr. Van Deusen prefers the black bees to Italians, in buckwheat harvest, although hybrids are equally useful. Mr. Elwood agrees that hybrids are most useful in his locality. He prefers a race containing about three-fourths Italian blood—one-fourth black.

Mr. Root says neither race possesses as many points of superiority over the other as some claim for them. He would advise every one to have both races. He found that the Italians are active workers, but when abused they are also active fighters.—In 1876, Dr. A. H. Marks had secured 150 pounds from his only Italian stock, while his best black stocks only gave about 75 lbs. each.

Mr. Doolittle—the purer the Italian, the more industrious the bees, and the more the profits from them.

W. A. House prefers a cross of ⅞ Italian blood to ⅛ black.

Dr. Marks found that one fall an Italian stock filled a set of side and top boxes from wild flowers, while his blacks failed to secure any surplus.

Mr. Perry considers the black bees superior to Italians in every particular. He says the champions of Italians are constantly growing less in number and weaker.—He would sell any stock that seems mixed.

Dr. Marks had never secured more than 75 lbs. of comb honey from one black stock, while he had taken 225 lbs. from an Italian.

Mr. Preston wished to know if any one had secured over 100 lbs. of box honey from a black stock. Comparison will tell the story.

Mr. Lloyd had, in 1874, 22 stocks of black bees, which increased to 43, and took an average of 115 lbs. of box honey. Basswood yielded bountifully for 3 weeks.

E. D. Clark must have some Italians, but considers the blacks equally as profitable.

H. Root had always kept black bees.—He considered blacks equally as good as Italians.

In 1877 he had 56, and increased to 110, taking 4,798 lbs. of cap honey; shipped to New York. A single new swarm, cast June 15, gave 167 lbs. of box honey. Both Mr. Root and Mr. Lloyd live in Otisco Valley, than which no better locality can be found.

Mr. Perry will give $100 for 1 lb. of red clover honey, gathered in his locality, by any kind of bees. He has acres of red clover.

Mr. House says his Italians did work on red clover this last season, when no other plant was in blossom.

Dr. Marks agreed, and said that when he had only one stock of Italians, he found ten Italians to one black on the red clover. He had many black colonies then.

Mr. Snow had taken, in 1873, from a new Italian swarm, hived May 15, 124 lbs. The parent stock gave 76 lbs. of box honey.—In 1877, a swarm of Italians, hived May 12, gave 132 lbs. of box honey. Mr. Snow lives at Fayetteville.

FRIDAY, FEB. 8.

President Root in the chair.

The question of marketing honey and the time of preparing the statistical table was considered.

Mr. Ellwood offered a resolution that a committee of five be appointed to revise the statistical table, to add to its completeness, and change the time of its publication. It is expected that this committee will bring great benefits to the members of this association.

The motion was carried.

The president was instructed to appoint such committee, which he did, as follows: P. H. Elwood, Starkville, N. H.; G. M. Doolittle, Borodino, N. Y.; E. D. Clark, Randallsville, N. Y., and J. E. Hetherington, Cherry Valley.

The secretary said that we had failed to secure the benefits that should result from our sessions, just because we had failed to prepare a programme and appoint speakers to open topics. Article 8th of the constitution provides for these conditions, and should be more fully carried out.

Mr. Nellis requested that every member of the association send to him, at any time during the year, any question of vital importance. He would file such questions, and the committee will have a fund from which to make out an interesting programme.

The following delegates were appointed to attend the coming convention of the National Society, to be held in New York city next October: Messrs. C. D. Jones, G. M. Doolittle. E. D. Clark, Geo. M. Batty and L. C. Root.

Mr. Warner, from the Committee of Arrangements, stated that the expenses of the City Hall were $6.50. This was ordered paid.

Mr. M. B. Warner was chosen a committee of arrangements for the coming year.

QUESTIONS ANSWERED.

The following questions were presented to the Committee on Questions, consisting of Messrs. E. D. Clark, of Randallsville; N. N. Betsinger, of Marcellus, and L. C. Root, of Mohawk, and answered as follows:

Question—What position should the honey occupy in the brood chamber, in the winter, in order to meet success?

Answer—One of the committee answered: Full combs in the center; the other committeemen favored the outside.

An animated discussion was provoked by this answer, in which several persons participated.

Q.—Can water be fed inside the hive, in spring, to advantage?

A.—Yes. by two of the committee, and no by the other.

Q.—Is teasel honey superior to white clover and basswood honey?

A.—Yes, by one of the committee. He considers the flavor superior to basswood and white clover honey.

Mr. Doolittle said it was not, only in looks. Teasel honey is the whitest honey known.

H. Root said that during the late war, when teasels were largely cultivated, his honey was dark, but since the decreased cultivation of teasels, his honey was whiter.

Q.—Will the queen of the second swarm get impregnated while swarming, or will she have to come out another time for that purpose?

A.—She sometimes does so, but as a rule, she comes out again for that purpose.

Q.—Do the bees, acting as nurses, alter in any respect the natures of the young queens or bees nursed?

A.—No.

Q.—Can virgin queens be successfully introduced? If so, how is it done?

A.—Yes; leave the colony queenless three or four days. Cut off all cells and put in a very young queen.

Q.—May not the trouble of lazy and unprofitable Italians come from breeding for color?

A.—Yes.

Q.—What is the best use to make of our buckwheat honey?

A.—Sell it.

Q.—Is basswood better than pine for honey boxes?

A.—No.

Q.—Can bees that are swarming in the air be controlled, so that they cannot abscond when the bee-keeper is near?

A.—Yes, by previously clipping the queen's wings, or using a fountain pump.

Q.—What is the cause of foul brood?

A.—Unknown.

Q.—What is the remedy for foul brood?

A.—By one of the committee—Twenty-one days after swarming, shake off all bees from the combs in parent stock, and destroy the combs. By two of the committee—Shake the bees into an empty hive or bag and destroy the combs at once, and 48 hours after give the bees a hive which you wish them to occupy permanently.

The association then adjourned.

J. H. NELLIS, Secy.

[The tabular statement may be found on the next page.—ED.]

North-Western Illinois Convention.

A few of the apiarists, of north-western Illinois, met at Rock City, Ill., Dec. 4, 1877, and organized the "North-Western Illinois Bee-Keepers' Association." After the adoption of a constitution, the Association adjourned, to meet at the call of the executive committee.

The Association met at Rock City, Ill., Jan. 29, 1878. President H. W. Lee in the chair; T. E. Turner, Sec'y.

After reading the minutes and constitution, 5 new names were added to the roll.—The Association entered into the discussion of topics as follows:

NORTH-EASTERN BEE-KEEPERS' ASSOCIATION.

TABULAR STATEMENT OF OPERATIONS FOR THE PAST SEASON.

NAMES.	SUCCESS IN WINTERING.									SUCCESS OF THE SEASON'S OPERATION.											
	No. of Colonies Fall 1876.	Condition in Fall.	No. of Colonies Spring 1877.	Condition in Spring.	Where Wintered and the Average Temperature	When put in—1876.	When taken out—1877.	No. of flights in winter.	Manner of wintering briefly expressed.	No. of Colonies Spring 1877.	No. of Colonies Fall 1877.	No. of Italians in Fall.	No. of Blacks in Fall.	No. of Hybrids in Fall.	Name of Hive.	Number and size of frames, outside measure.	Amount of Box Honey produced.	Am't of Extracted Honey produced.	Proportion of white honey.	Amount of wax.	Extra Italian Queens.	The principal sources from which honey was gathered.	Average value of the honey season.
H. Root	80	g	65	m	Out-doors			..	Different ways	65	110	...	110	...	Langstroth	10 fr 18x93/4	5,000	....	9-10	30	...	clo., bassw., bu.	m
G. M. Doolittle	104	m	80	m 1	Cellar & out-d, 42	Nov. 27	Mar. 17	2	Fig. 2	67	152	152	...	...	Doolittle's	9 fr 11¼x11¼	10,284	893	5-6	30	100	cl., ba., tea., bu.	g
J. L. Scofield	90	g	90	g	Cellar. 42	Nov. 27	Apl. 13	..	Quilts over frames	90	112	112	...	50	Langstroth	10 fr 9½x17⅜	5,430	1,050	½	47	69	clover, buckw.	g
H. D. Mason	72	g	65	g	Out-doors	Nov. 15	June 1.	1	Packed in boxes	60	108	37	1	70	Langstroth	10 fr 9½x17½	4,800	200	9-10	20	...	basswood	g
N. N. Betsinger	200	m	40	w	Out-doors			1	Packed in saw-dust	74	178	20	18	140	Betsinger Imp.	8 fr 9½x15	7,500	100	5-7	100	...	teasel & buck.	g
W. A. House	280	m	137	w	160 in, 120 out	Nov. 15	Mar. 20	1		137	240	80	...	160	House's Imp.	8 fr 12¼x11½	5,000	500	⅖	30	...	wh. & red clo.	m
Joseph Stetsel	60	g	54	w	Cellar, 35 to 40	Dec. 2.	Apl. 3.	..	No protection	54	88	...	66	22	Old Quinby	8 fr 18½x11¼	1,250	....	2-5	6	...	clover & buck.	g
W.V.Bosworth,Jr	21	..	14	g	Out-doors				Packed with straw	14	32	mi	xe	d	Langstr'th Imp.	8 & 9 fr 16½x10	300	10	....	6	...	ba., cl., lo., w. fl.	g
Leroy Newton	10	g	10	g	Cellar	Dec. 30	Apl. 1.	..	Quilts over frames	10	26	...	26	...	Langstroth	10 fr 9⅝x18	550	....	all	...	...	clo. & basswood	g
A. H. Marks	72	m	47	w	House, 45			1	Packed in chaff	47	76	63	1	12	Quinby	7 & 8 fr 17x11½	3,700	400	⅖	...	20	clo., ba., bu., G.	m
Wm. R. Edwards	24	g	15	g	Out-doors				Packed in straw	15	28	...	28	...	Langstroth	10 fr 9x17¾	1,064	....	⅛	...	...	cl., ba., tea., bu.	g
W. E. Clark & Son	57	m	52	m	House, 38	Nov. 25	Apl. 2.	1	Fig. 3	52	108	1	107	...	Wheeler's Imp.	12 fr 10¾x11¼	1,000	1,500	¾	40	...	cl., ba., buckw.	g
E. F. Wright	62	g	46	m	Cellar and house.	Nov. 15	Apl. 6.	3	Top tight, end vent'n	46	78	15	56	7	8x12, 11 deep	8 fr 10½x17	3,000	150	⅖	25	8	cl., ba., ivy, G.	g
T. A. Salisbury	4	..	14	g	Out-doors				In chaff boxes	14	24	...	1	23	Langstroth	10 fr 9⅛x17¾	1,314	....	a l	4	...	sw. & wh. clo.	g
Daniel Marsh	47	g	34	g	Cellar & out-d'rs.	1st c'ld	Apl. 25	2	Carpet on top—cellar	34	76	12	...	64	L. & Marsh	9 & 10 fr 12x13	2,500	....	¾	...	...	clo. & bassw.	m
Edwin A. Knapp	10	g	8	g	Cellar, 45 to 55	Dec. 21	Mar. 14	1	Carpet on frames	8	14	...	10	4	Langst oth	10 fr 9x18	880	....	¾	4	...	clo., bu., ba., ra.	m
Danl. Z. Betsinger	35	m	26	g	Out-doors				Passages in combs	26	46	...	46	...	Langst oth	7 fr 10¾x16 3/4	900	120	⅜	8	...	basswood	m
Ira Wilson	45	g	22	w	Out-doors				Packed in straw	32	53	...	28	30	Quinby Impr'd.	6 fr 13½x11½	1,000	50	⅛	...	...	clo., ba., bu.	pr
Geo. W. Battey	121	g	100	g	Out-doors			3	Packed in straw	100	140	20	100	20	L. & box	8 fr 11x14	3,000	500	¾	...	...	clo., ba., bu.	g
S. T. Hoyt	75	g	42	g	Out-doors			4		42	76	33	...	38	Graves & box	8 frames	1,000	120	⅜	30	...	fruit, clo., ba.	g
J. E. Lloyd	64	..	44	w	Out-doors					44	73	...	70	3	Farmer's Fr'nd	9 & 13 fr 10½x11	3,394	....	⅛	75	...	clo., ba., bu., ra.	m
C. D. Jones	50	..	50	g	Cellar, 44	Nov. 22		2	Quilts over frames	50	50	mi	xe	d	Langstroth	9 frames	15½	2,700	800	¾	30	clo. & bassw.	m
M. B. Warner	15	m	14	g	House & out-d'rs			..		14	22	3	3	16	Universal & bx.	8 14¼x11½,9¼x	620	773	9-10	9	...	wh. & sw. clo.	g
J. H. Bucklin	179	m	170	m	Cellar, 38	Nov. 20	Apl. 2.	..		170	205	mi	xe	d	Mostly box	8 fr 12x16	2,300	....	all	...	...	clo. & bassw.	m

EXPLANATIONS.—m, medium; g, good; w, weak; pr, poor; ba, basswood; cl, white clover; bu, buckwheat; tea, teasel; lo, locust; G, golden rods; ra, raspberry.

Fig. 1.—50 fair; 30 very weak. Fig. 2.—50 out-doors, packed with straw; those in cellar, quilt over frames; 67 honey stocks in spring 1877; those in cellar had no flights.

Fig. 3.—6 inch cut straw in cap, end frames removed and filled with cut straw.

L. C. ROOT, *President.*

J. H. NELLIS, *Secretary.*

ITALIANS VS. NATIVE BEES.

Mr. Williams' success with the black bees, working in boxes, was better than with the Italians. The Italians appeared to dwindle worse than the black bees in the spring; but the Italians were easier handled, and were not troubled so much with moths as the blacks. On the whole, he preferred the Italians.

H. W. Lee preferred the Italians. Their queens are more prolific, easily overcoming spring dwindling.

Mr. Willikin prefers Italians, because they work on red clover when the blacks would not.

T. E. Turner gave the preference to the Italians over the blacks. Had seen them in great abundance on the red clover, but had never seen a black bee on it. Italians seemed sometimes to prefer the red clover to the white. Italians would stay on the combs, when handling, while the blacks would run to the sides of the hive. It took much longer to find a black queen than it did to find an Italian. They are proof against moths.

Mr. Kiester thought Italians were much better than the native bees.

PREPARING BEES FOR WINTER.

Mr. Lee had fed sugar syrup in September, when bees failed to store enough honey for winter, and his bees wintered well on it. Fed late in the evening, by pouring the syrup right on the cluster in the hive. He preferred summer honey, rather than fall honey; bees wintered on it were less liable to disease. He would feed honey after this and not sugar, for those who did not understand the matter thought he fed sugar syrup to be extracted and sold for honey. He takes off the honey board and puts on old sacks or cloth, to keep bees warm and to absorb moisture. Had always wintered in the cellar.

Mr. Williams had kept bees in box hives until recently, and had wintered out of doors successfully. He now wintered his bees in the cellar, giving ventilation through wire cloth.

T. E. Turner wintered bees in the cellar, and this winter put on a piece of muslin in place of a honey board. He preferred ripe summer honey to fall honey or sugar syrup, for winter feeding.

COMB FOUNDATION.

J. Stewart considered comb foundation a great success. It enabled the bee-keeper to get all straight worker-combs.

R. M. Millikin had used it for starters, during two seasons, and liked it very much.

J. Fehr tried it, but was not very successful; expects to try it again next season.

T. E. Turner considered it a success, if used only for comb guides; and, if used more extensively, it would give all worker-comb, which could not be got where bees were allowed to build all the comb themselves.

NATURAL AND ARTIFICIAL SWARMING.

Mr. Lee liked both natural and artificial swarming, under some circumstances. He liked the artificial method when he had plenty of empty combs to fill the hives, and a fertile queen to introduce into the queenless part. But, if he had neither empty combs nor fertile queens, he liked natural swarming the best. Such swarms usually build straight combs, and were not so apt to cast second swarms. He thought cells from a hive that had cast a natural swarm produced more prolific queens than those produced by artificial swarming.

Mr. Keister also thought forced queens were not so prolific as those produced by natural swarming.

Mr. Williams liked artificial swarmiug, but lets his bees do their own swarming, mostly.

T. E. Turner never practiced natural swarming, because he had no bees to spare to go off to the woods. He did not like the artificial method of dividing, unless he had a fertile queen for each part; still, he preferred it to natural swarming. He had tried nucleus swarming and thought that the best method of increasing stocks.

FERTILE WORKERS.

Mr. Lee had got rid of a fertile worker by caging a fertile queen in the hive 10 or 12 days before releasing her. He thought the surest plan to get rid of fertile workers was to unite the bees with a hive near it that had a fertile queen, and then in a few days divide the united stock, if thought best.—He had not tried that plan, but could not see why it would not work satisfactorily.

Mr. Williams had a hive in which he had 4 Italian queens killed, and he introduced a black queen successfully.

T. E. Turner had but little experience with fertile workers. He had been told a good plan to get rid of one was, taking the bees 20 rods away and scattering them around on the ground, and then letting them fly back to their old stand. But he thought uniting bees with some other colony, and afterwards dividing again, would be the most economical plan.

ROBBING AND ITS CURE.

Mr. Lee keeps the entrance contracted and honey out of the way of bees, to prevent robbing. When robbing was general, all over the apiary, he had stopped it by closing and opening the entrances of all the hives alternately, for a few times in quick succession. The bees became confused and the robbing stopped. If but one hive was robbing another, he had stopped it by exchanging places of the two hives.

T. E. Turner found robbing was like many other things—more easily prevented than cured. He had been told, a good way to stop robbing was to put loose straw over the entrance of the hive that was being robbed.

MARKETING HONEY.

Mr. Williams has his honey stored in old-fashioned boxes, and puts his extracted honey in Mason jars, and sells it all at the same price.

Mr. Lee finds that some customers want honey in frames, and others want it in boxes; and to suit all customers, the producer must have it in the shape in which it

is wanted. The present market price for extracted honey will not pay to produce it.

Mr. Fehr said that sometimes one would sell honey below the market price, which would interfere with others making sales, and he thought Associations might do something to fix a uniform price.

After the consideration of these topics with a good degree of interest, and attending to some miscellaneous matters, it was

Resolved, That the Secretary be, and hereby is instructed to send an abstract of the proceedings of the Association at this meeting to the publishers of the AMERICAN BEE JOURNAL, and the *Bee-Keepers' Magazine* for publication.

The Association then adjourned to meet at Rock City, Ill., at 10 A. M., on the first Tuesday of May, 1878.

Rock Run, Ill. T. E. TURNER, *Sec'y*.

Marketing Honey.

READ BEFORE THE MICH. CONVENTION.

In this subject I feel that I have a duty I am unable to discharge. Allow me to assert that the successful display of honey is a trade all by itself, scarcely inferior to the production of it.

1. We cannot expect to succeed in this branch of our pursuit, unless we can maintain a certain degree of independence in the markets.

I hope each member here will strive to induce consumption, and thus create a demand; but, we must recollect that the object of this meeting is to learn of each other how to increase production.

We must do all we can to realize good prices for our surplus product, if we wish to maintain a reputation for our pursuit.

High prices for honey promoted apiculture from its side-issue condition to its present high standard. A small number of specialists have done more to place bee-keeping where it now stands than all the bee-owners combined.

It was not extractors, Italian bees, nor comb foundation, but enthusiasm, stimulated by war prices, that did it.

I will try to put forth my ideas of independence in the honey market. I know of producers who sold a part, or all of their crop of bright comb honey, at from 10 to 12 cts. per lb. Simply because it was stored in ugly boxes, unattractive and unfit for market. Now, this low sale not only injured the one that made it, but every honey producer.

A bee-keeper, after looking at my honey boxes, said to me: "You will sell all of your honey as fast as you can hand it out, at good prices." Said I, "If my neighbor stores his in a nail keg, he is going to sell it, if he gets but 1c. per lb., and the purchaser is going to eat it; and when he is full of this nail-keg honey he does not want mine at any price; much less at a price that will pay me for putting it up in attractive and convenient shape." Hence, both of us producers must lose, and the nail-keg man the most. What we most need is uniformity and attractiveness in our packages. I believe every honey producer should be prepared to ship, in neat, safe, and attractive shape, directly to the consumers or retail dealers. The more, because honey is a product that is consumed and produced in nearly every place in the civilized world.—Let us protect the dealer, and remember that he is an unavoidable and useful member in the commercial world, and that it is worth more to retail our honey to consumers, than he charges us for doing it.

Proper sizes and styles of boxes and cases, readily transportable, will avoid a glut in the market in one locality, and scarcity in another, which is the wholesale dealer's success, and the producer's ruin.

We see in the journals such statements as these: "I have no trouble to sell my comb honey at 25 cts., and extracted at 20 cts. per lb." Then another, "Can you tell me where I can find a market for my honey? I ask 18 cts. for comb, and 10 cts. for extracted,"

All this proves that we have no rational system of storing in attractive shape, and shipping this product of ours.

I think the day is close at hand, when the price of honey will be more uniform through this country. Our show table is well supplied with the means to bring about such a result.

In regard to sizes of packages, we shall find that our goods are subject to the same laws of trade that all others are. We must store comb honey in at least 2 sizes of boxes, and perhaps 1 size of section frames besides. Reasonably small packages will be found most saleable, but I consider the 4¼x4¼ in. sections, as used by A. I. Root, too small.—It shows too much tare. I believe that the coming price of honey will induce consumers to buy more than a thimble full at once; and, of course, we prefer to store in as large boxes as will sell well, and ship safely. Our cases for comb honey should be of bright, clean wood, not holding over 30 lbs., and as cheaply gotten up as will answer the purpose, and never make any calculation to have them returned. By freight is the safest and cheapest way to transport honey; and if you ship by express to get your cases returned, you take extra risk of smashing, and pay more for a dirty, and perhaps broken cases than the original cost; besides, you need a set of books to keep track of their whereabouts.

To sum up, does any manufacturer or dealer do business on the return-case principle, except where the contents are to be at once removed, and the cases kept from sight, and goods sent by express, because perishable (like oysters in bulk) and then return case free? If soaps and candles can afford a box, so can our valuable product.

I have seen a notice of this meeting in nearly every newspaper I read. If half the effort that we have put forth in this direction could be used to help us sell our extracted honey, candied, and inform the public that it is pure and clean, too; and that nearly all syrups and molasses are not, it would work a change for the good of both producers and consumers, while liquid honey has probably the worst of names, as regards its purity. This audience knows that there is a less per cent. of adulterated honey in the world than of any other commodity, possible to adulterate.

There is no use to deny the fact that we have done little or nothing to inform the public of the superiority of extracted honey over its competitors. We have been too busy manufacturing supplies, and bee-keepers to buy them. If we expect to increase the demand for our product, we must increase the consumption. We can do more unitedly, than alone. Nearly every leader in the convention has asked the press to help forward production; and they have often done so. Who has asked them to forward the consumption of honey? Production of honey is in advance of consumption, in this country, to day.

Supply and demand has the same influence on the success of our business as upon all others. We must strive to keep demand in advance of the growing supply, or some of the weakest among us will be forced to abandon the business. JAMES HEDDON.

Correspondence.

For the American Bee Journal.

Fertilization in Confinement.

REV. M. MAHIN, D. D.

That by careful and judicious selection, bees, as well as any other stock, can be improved, does not admit of a doubt. Very great differences are observed in the temper, and in the productiveness of swarms. This is true even of those that are very nearly related. I have raised two queens from the same mother, at the same time, and have given them, as nearly as possible, the same advantages as to bees and combs; and while one colony has been prosperous, becoming strong in numbers and rich in stores, the other has hardly lived. Now, a queen raised from the poor one might be prolific, and produce good workers; but any one would prefer to have a queen from the prosperous colony, as more likely to possess the qualities desired.

With our modern facilities for handling bees, it is easy for us to select the mothers of our queens; and it is a fortunate fact, that in bees the mother impresses her own character on her progeny much more strongly than the father does. In many cases, the progeny of a pure Italion queen, fertilized by a black drone, will be so nearly like pure Italians that only a practiced eye can detect the difference. I have now a colony of half-blood, bred from a very finely marked stock, in which I have failed to find a single bee that has not three distinct golden bands. Yet, the want of uniformity in color, some being light and others dark, convinces me that they are not pure. On the other hand, a black queen mated with an Italian drone, will produce bees with little trace of Italian blood. Notwithstanding, it is more important to have queens bred from good mothers than from good fathers, it would be a great advantage if we could select the drones as well as the queens, from which our breeding stock is to be reared. Can we do it? And if so, how? These are questions which have not yet been satisfactorily answered. I have been, for several years past, among those who believe that the object can never be successfully accomplished. I have no faith in any plan that allows the young queen to retain her ability to fly. It is impossible to so construct the entrance to a hive that the workers can pass and repass, and that a virgin queen cannot. There is usually a little difference in the thickness of a virgin queen and a worker; but it is so little, that where the worker can pass, the queen will manage to squeeze through; and then all the labor is lost.

If the fertilization of queens can be controlled at all, I think the first thing to be done is to clip their wings, so that they cannot fly. Then the queen must be watched, and when the young queen comes out, set a wire cloth cover, (such as are used to cover dishes at the table), over her, and catch such drones as you want and put under the cover with her, leaving her in the sunshine and where the workers of her own colony can feed her through the cover. If the experiment does not succeed within 10 or 15 minutes, let her go back into the hive and try it again the next time she makes her appearance, which will probably be in 5 or 10 minutes.

I have not tried this plan, but I recommend it to those who have the time and the patience to give it a fair trial. My reason for thinking that it may succeed is that queens that cannot fly sometimes become fertile, copulation taking place, no doubt, outside, in front of the hive.

When I was a boy, my father and I were looking at a couple of swarms of bees, hived, perhaps, the day before in log gums, when we noticed one of the queens come out and fly away. We supposed, that being dissatisfied with the domicile we had furnished her, she had gone to the woods to find a hollow tree, to which she might lead her subjects. On her return, my father caught her and clipped one of her wings. Observing the other hive standing on the same bench, and next to the one just mentioned, we saw the queen come out of it, and she was cought and clipped also. And then trouble began. Neither queen was impregnated; and we had to watch them day after day, and return them to the hives, until one time when the family was away from home until after dark, one of them staid out all night and perished; and the bees went in a body into the hive of their next door neigbors, and went to work. We saw nothing more of the other clipped queen until swarming time the next summer, when she came out with a large swarm of bees. She had been fertilized, and had got back into the hive, the day we were away from home.

A few years ago, I clipped a wing of a young queen to prevent her fertilization, that the drones in her hive might be spared to fertilize some queens that were about to hatch. It was late in the fall, and most of the hives, all, in fact, that had fertile queens, had destroyed their drones. After all, my young queens had been impregnated, I opened the hive containing my clipped queen, and discovered that she had been fertilized; probably, within the previous hour.

These facts, and other similar ones that have been reported, seem to me, to point out the line in which experiments should be made, if we would succeed in breeding from the drones of our purest and best stocks.

Logansport, Ind., Feb. 13, 1878.

For the American Bee Journal.

Introducing Virgin Queens.

It appears from reports in the JOURNAL that it troubles many bee-keepers to introduce virgin queens. For the benefit of such, I will give my method of introducing, in detail, thinking it has some advantages over any method that has come under my notice. It may not be new to some, but if not, it has not yet made its appearance in the AMERICAN BEE JOURNAL, to my knowledge.

When the apiarist wishes to introduce virgin queens to hives that have swarmed, to prevent after-swarms, or for any other purpose, let him go to a hive that has piping queens, remove the frames without smoke, if possible, or use as little as may be necessary to subdue the bees, in order not to frighten the guards away from the cells, or you may defeat your object, by allowing the queens to escape without securing them in the cells—therein is where I claim the advantage of this plan over others with which I am acquainted.

With a small knife remove the cells that have queens ready to emerge, which may be known by their having the lid of the cell cut loose part way around, and would come out any time if they were not kept back by the guard of workers that are stationed around such cells for the purpose of keeping them prisoners, and supplying their wants, which they do by the queens thrusting their tongues through the opening at the side of the lid, to receive the proffered food, tendered by the faithful workers.—Use care in handling the cells, and, as fast as removed from the comb, lay them on their side, on a small board with a cleat on one end; lay the open end of the cells close against the cleat, to prevent the escape of the queens till you get all, or as many as you wish to remove; then take the board containing the cells, go to the hive you wish to re-queen, take a cell in one hand, hold the open end close to the entrance and with your knife assist the queen to remove the lid, and let her run into the hive without touching her with your fingers, and she will be well received.

I have introduced many by this plan, and found it the most uniformly successful of any method that I have tried. I have had a few cases where virgin queens were put in very early in the season, to prevent after-swarms, become fertile and fill the hive with brood so rapidly that they would swarm out with preparations the same as prime swarms; but such cases are very rare in this climate.

Last season I introduced 8 queens, the same day, to as many hives. A part had swarmed naturally, and the balance were artificially swarmed; the queens were all well received, and in due time were laying.

By the way, one of the 8 that was introduced to number 14, met with quite an adventure before she reached the hive.—The bees in said hive had been very irritable for several weeks, and would show their pugnatious disposition on approaching the hive, without any provocation whatever. I was very particular to approach this hive with care when giving them a queen. I held the cell near the entrance, and with my knife pushed open the lid. Just as the queen started out of the cell, an angry bee came out of the hive, and started after her; she ran about six inches on the alighting board and then turned to give battle, but it was as decisive as short; she had no more than turned facing her antagonist, before the worker was in her vice-like embrace; the queen curved her abdomen under the worker, stung and dropped her instantly.—She turned round and walked into the hive, as unconcerned as though nothing uncommon had happened. The abdomen of the worker contracted, she crawled to the edge of the alighting board and dropped off.—This was all done before the queen had been out of her cell one minute, and was the first time I ever saw a queen sting a worker.

For preventing after-swarms, this plan has many advantages. I introduce any time, from the day that a hive swarms till just before the young queens that were left in the hive begin to hatch, and have very little trouble, but I prefer to introduce within the first five days after they swarm.

Warren Co., Pa. JNO. F. EGGLESTON.

For the American Bee Journal.

Sending Queens by Mail.

Last season an attempt was made to get the Post Master General to reconsider the instructions from that department against sending queens by mail, but that august dignitary would scarcely condescend to even listen to the request. Now, we thought at the time that it would have been better not to agitate that question any more, but let every body continue to send queens by mail. We have always done so, unless ordered by express.

We put them up in sealed packages, and pay letter postage, and enclose a letter at the same time, so that we are simply sending a letter with a bee, or two or three in it; and if properly put up, the postage would not be more than double letter postage, at the farthest; and if several queens are sent at once, it would be less.

The advantage of this plan is, that the postmasters have no business to know what is in your letters, and you are under no obligations to tell; at least, I don't know of any law that authorizes postmasters to open letters, nor to make the writer tell what is in them.

Put up your queens in sealed packages, put on letter postage and drop them in the letter box, and then let us see where the postmaster is that would dare not to send them.

Postmasters are instructed not to allow

bees to go in the mail, but unless you tell them when you are sending, or put them in the class of mail matter that they are allowed to open, those instructions are entirely defeated. But, if you go to the office with your bees, and say to the postmaster: "Here are some bees; what is the postage?" he is bound then to tell you that they are not mailable. N. CAMERON.

Lawrence, Kansas, Jan. 15, 1878.

For the American Bee Journal.

Doolittle's Report.

My mind has often reverted to the great achievement of G. M. Doolittle, that appears on page 347, in the October number of the AMERICAN BEE JOURNAL, in securing 10,284 lbs. of box honey from 65 colonies out of 80, worked for box honey. It is truly splendid, and has led me to a closer scrutiny of the report than if it had been smaller; and it has brought to light some facts which I wish to be made as general as the report itself. I do not charge, that Mr. D. intended to deceive, as I think it has always been his custom to give the old stocks credit for the honey made by the full force of old stocks and increase, which is calculated to mislead the public, and especially novices grievously. Briefly I will state what I believe to be facts in the case.

He says the average yield per stock worked for box honey was 158 lbs. each.—Now we are left to infer that though he increased to 152 stocks, the increase gave him *no* box honey. And yet, he says in an article headed, "Increase, and preventation of increase," read before the National Bee-keepers' Association, in New York, Oct., 16, and which appears in the November AMERICAN BEE JOURNAL, page 370, "Thus it will be seen, that we make our new stock from 2 old ones, and they are *all* in the best possible condition to store box honey;" and again he says in his report, "Thirteen old stocks that were weak were broken up into nuclei, to raise queens from."

Now, we will figure a little. If, as he says, 1 new stock is made from 2 old stocks, and all equally strong, and he had 65 old ones that he worked for box honey, then he had 65 and 32, equaling 97 old and new to box. I am credibly informed that he boxed 110 stocks, the 13 wanting to make up that number (110) was probably by doubling up the nuclei that raised the queens for his increase. Thus his nuclei played an important part in his yield, by giving his new stocks fertile queens, which we know to be a great aid, and should be considered.

A boss carpenter says, "*I* built that house!" Yet, he did not. He supervised and aided; many men put their muscle to the work.

> "Anvils rang, and hammers beat
> Before the work was called complete."

And so this aid was extended in the building up of that pyramid of honey, by Mr. D's 30 nuclei. But I have digressed a little. He has boxed those 110 stocks, 28 or 30 boxes, (2lb., Betsinger Sectional Boxes), to each hive, in the Betsinger Sectional Case, which gives him 60 lbs. capacity for each hive. The result is 10,284 lbs. of box honey, or 93½ lbs. of honey to each of the 110 stocks, *gross weight*. Now, *wood* and *glass* is not honey. There were used to box this honey 5,000 boxes, weighing 2 oz. each, 625 lbs.; 10,000 lights of glass, (41 boxes), 50 lbs. to the box, 2,050 lbs.. Tare, 2,675 lbs.; leaving 7,609 lbs.. or an average of 69 lbs. each, of what the world *calls* honey. 158 minus 69 equals 89 difference.—Why, this does not look so *large*, does it?—And yet, I believe it *strictly* true as to the first average, 93½ lbs.; the tare may be slightly incorrect on the last average 69 lbs. If I am wrong, Mr. D. will please correct me. I have no other object than to review his report, as I would the balance sheet of a banker's statement, ere it went to the public, if it were laid before me for inspection. And this 69 lbs. average is presuming that the other 42 stocks of increase gave no box honey.

I do not wish to belittle Mr. D's. report.—His success the past season has been good. He is an energetic enthusiast in his vocation, which, added to a good season and good appliances, has made that success possible.

May I give you Mr. Doolittle's report in my simple mathematics, and you shall judge if it be correct: I had 80 stocks in spring; 13 weak. Increased to 152 colonies, in good condition for winter. I have taken of box honey, 10,284 lbs.; of extracted, 803; total, 11,177 lbs. Forty-two of this increase I presume to be made after the box honey season, leaving 110, and 2 used with the extractor make 112 stocks. An average of 100 lbs. to the hive, gross weight, tare as above, 26.75, or 24 per cent., nearly.

This is splendid for an average, and should satisfy the ambition of the most aspiring. CHAS. D. HIBBARD.

Auburn, N. Y., Dec. 4, 1877.

For the American Bee Journal.

The Honey-Producer's Future.

WHAT SHALL IT BE?

Who can tell? I cannot. Even the youngest of us have lived long enough to see several new kinds of food preparations come into existence and general use. These several new kinds of food appeared to contain elements which the human system soon learned to *demand*. This does *not* seem to be the case with honey. *Our* product seems to be only a luxury, that a part of humanity like occasionally. Many persons cannot bear it. It is said that once honey was used very extensively. That statement is true. It is also said, that at that time honey was the principal "sweet" known to man. It is further stated, that within the last few centuries cane sugars have sprung into market and into general use, and honey has stepped to a back seat. All true. Had we no sweet but honey, the natural constitutional demand for sweet would place it, with its several acids, as a *staple commodity*.

For three years I have placed the choicest of pure machine-extracted honey upon the tables of my neighbors at 11½c. per lb.,

$1.25 per gallon—11 lbs. for a gallon. *Every one* speaks in the highest terms of said honey. I have taken pains to get the people to sample it, that they might have that honey that was best suited to their individual tastes—clover, basswood or fall flowers. I find many preferring the dark honey, but most the clover.

In 1875 I sold 125 gallons, in 1876, 40 gallons, in 1877, up to date, 15 gallons, in round numbers. All this time I have sold my bright honey below barrel prices.

Now, I credit the cause of this falling off to two sources:

1st. "Hard times," or comparative scarcity of money; and,

2d. To the fact that honey contains no elements that fastens itself to the system as a necessity. At this same time oysters have been sold at one price, and the trade in this town has rather increased. We think we *must* have them every-so-often.

We "*like* honey once in a while." An arcle of food may taste delicious to the palate without having the power to kindle an appetite that amounts to a demand. Whisky and tobacco are naturally noxious to the taste, but after given to the system a few times they *create* a demand that hard times, high prices, and revenue taxes can't counteract. It seems to me we need not look in the direction of "increased demand," as far as table use is concerned, to take the surplus crop of honey that the American flora can spare, and that these "gush over" book and supply dealers say "must be gathered."

Now comes the question, What is the value of honey for cooking, brewing, ham-curing, wine-making, and such unlimited sources of demand? If honey is better than glucose for beer, why? It is many times sweeter; but cane-sugar is many *more* times sweeter. Honey is thicker, and contains more vegetable matter than sugar; but glucose is much ahead of honey in this respect.

If honey is to rival these products above mentioned, won't some one please rise and explain why? I hope such may be the case, but in so important a matter as this is to my future earthly welfare, I beg of the knowing ones for the why and wherefore of their belief that such will be ours to enjoy. I am aware that whisky and tobacco make a morbid demand for more, but many kinds of food all of which were new some time in past history, have *become a necessity* to our well-being. I am of the opinion that honey is not to rise above a luxury of occasional enjoyment, and must be a beggar in every turn of the times.

To the source of an adjunct to the manufacture of some other commodity do I pin my last hope for the future welfare of the honey producer. Please let us hear of any new ray of light that has been discovered in that direction by any one.

I may be wrong in my conclusions, and may it be that I am, but when I hear those "enthusiastic" ones (and Prof. Cook says bee-keepers are "enthusiasts" universally), I think of the Rev. Joshua Billings' definition of an "enthusiast." He says, "An enthusiast is one who believes five times as much as he can prove, and can prove five times as much as any one else will believe."

We are told that honey is about to become an article of general use, and yet many of these same persons tell us to put up this "staple commodity" in little "tiny" cards —say 4¼x4¼—and then be sure to put glass enough on both sides of the honey to outweigh it, as the glass being transparent will not be objected to. Suppose you try some *other* staple in that way. For instance, put up granulated sugar in one-pound glass jars, baking-powder (a thing of a few years' time) in glass boxes. Why, we can't stand *tin* boxes any more. It has become a staple in towns and cities at least, and we buy in bulk. As Mr. Bingham said at Convention, about house apiaries, "Talk may say one thing, but what do actions say?" In my opinion, those dealers who beg for *little glass* boxes haven't got very far into the staple business yet. A. I. Root's and others' methods of shipping sections in *glassed cases*, and only asking the consumers to buy as little as possible besides the HONEY, looks more to me like an effort to place honey among the staples. Nothing can stand more in the way of the general introduction of our produce than so much tare on comb-honey, and the taking of clear honey before being capped and thoroughly "ripened."

Dowagiac, Mich. JAMES HEDDON.

For the American Bee Journal.

How to head off the Robbers.

Occasionally we have, in the JOURNAL, complaints from bee-keepers that thieves break open their hives, steal honey, or commit various depredations.

To those who are in danger of suffering loss in that way, I would suggest a very good remedy, namely, the "Burglar Alarm Telegraph."

About two years ago, I put up one of my own construction, with wires running underground to a smoke-house, and signal bell on the mantel-piece in my bed-room.—Although the wires were laid by myself, and every endeavor made to keep secret the object and uses of the apparatus, it got out one morning, by the smoke-house door being opened before the current was turned off and while a servant was in the room where the alarm bell was placed. In a very short time thereafter the news was pretty generally circulated, especially among the colored portion of the neighborhood, that my premises would be a very dangerous place to visit after the usual hours for paying neighborly calls. Private inquiry convinced me that bacon would have to be very scarce indeed before any of my "friends," especially the colored ones, would try to replenish their larders at my expense.

For the benefit of those who may wish to try this defense against robbers, I will give such points in the construction of a burglar alarm, as will enable any one familiar with the principle of the telegraph to put up one of their own:

For a conductor, use copper bell wire, number 18; the size may vary considerably from that without disadvantage. If to be laid underground, half of it must be insulated, and all the doors or gates from which

signals come must be on the insulated line; the return circuit may be of naked wire and lay in the same trench. I will here say that a return wire is necessary for short circuits and weak battery power, ground connections in such cases not working well.—Cores of magnets are of soft iron, about ⅜ of an inch in diameter, bent horse-shoe shape; wrap on 8 or 10 layers of the insulated copper wire. The alarm bell may be rung by an ordinary clock alarm. The magnet connected with the circuit wire holding the controlling wire of the clock alarm in such a manner that when the circuit is broken and the magnet ceases to act, the clock alarm rings until it runs down, or is stopped by hand. The battery used may be a very simple Daniell's battery of zinc and copper in blue vitriol, such as is used in telegraph offices; one small cell will suffice, and need not cost over 50 cts. per month to run. If preferred, the alarm bell may be connected with another small battery of the LeClanche pattern, so as to ring continually until stopped at the instrument.

I corresponded with parties in New York, who deal in electrical apparatus, and they recommended, for underground wires, insulated copper, at 8 cts. per foot, for both outgoing and incoming wire. I insulated my outgoing wire by wrapping two coats of cotton thread, and two coats of wrapping twine and then boiling it in a mixture of coal tar and gum shellac. The incoming wire was used as aforesaid, without insulation. The way I wrapped the thread on was by using a small piece of gass pipe for the spindle of a spinning wheel, upon one end of which was a block, carrying two spools of thread. The wire to be wrapped was pulled slowly through the hollow spindle, while the spools revolved around it; thus wrapping on the thread as thick as needed.

The gates and doors, or bee-hives, to which the alarm is connected, have the usual "contact plates," two small pieces of brass, to which the wires are attached, so that when the door is opened the plates separate, thus stopping the current of electricity and causing the alarm bell to ring.

The cost of apparatus, such as mine, need not be more than $5, and two or three days' work to put it up. CORN CRACKER.

Feb. 1878.

For the American Bee Journal.

Some Apologies.

I wish to apologize first, for doing anything that might make it necessary for my name to occupy so much valuable space in the pages of the AMERICAN BEE JOURNAL, as it does in the March number.

When I wrote as I did about John Long, I supposed I could turn at once to the pages of the *British Bee Journal* for the evidence; as I find in place of it only the complaint given on page 28 of the June number, for 1876, I am forced to the humiliating conclusion that I had got the matter mixed up with some other complaints, of which there have been quite a number. I certainly did very wrong not to have looked the whole matter up, and made my evidence complete, before going into print. I beg Mr. Long's pardon, and think under the circumstances, I should do a little more.—As you say he is trying to pay up all old scores, and to stand square with the world again, I will lend a helping hand, by sending comb foundation to all who sent him money and never received their goods. If Mr. Long thinks proper, he can pay me back when he gets around to it. He advertised and received money under the name of John Long, and no other name appeared in his advertisements or letters, and I never knew he had another name until it was announced that Wm. Hoge and he were one and the same man. I appealed to him through *Gleanings*, and gave his address to those who had sent him money, but never learned that any one could get a word from him, until you mentioned in the March number that he was going to pay all up.—Friend Hoge, would it not have been kinder to have written as much to your creditors?

I am very glad indeed that friends Doolittle and Betsinger have not quarreled.—May we not soon have a little card with both the names signed to it, saying that they are friends, and only had a difference of opinion?

I got the impression that each competitor was to pay $7.00, from the single line, on page 310, of your September number:—"One fee ($7.00) will be charged." The same was in a circular sent me. I beg Messrs. Thurber & Co's pardon, and will try and be more careful.

The rest of the charges friend D. makes, are, I think, mistakes which he will admit when I show him the letters he has written me. As this can be done privately, I think no more time need be taken up with the matter here.

In regard to the last clause, I frankly admit, that Satan must have been pretty close to my type writer when I wrote that article "Trouble." I see now, that I was off the track, and I humbly beg pardon of all parties.

If I have boasted of my goodness in *Gleanings*, I agree with you, friend D., it *was* all a sham, for I am a great ways from being "good," as you are all aware.

To friend Heddon I would say, that I did not intend to advise selling honey for 5c. as long as we could get more. I would assuredly sell my honey for as much as it would bring, but I would *try* and be happy, if I could get only 5c. I guess I did owe friend Burch the $50, for I told him to make out his bill of damages for the foundation being thicker than he ordered it, and I would pay it. I did not tell friend Becktell the same thing, and therefore, I did not see that I was in duty bound to "keep the bank open." Do you think I was? I believe friend Becktell was perfectly satisfied with the way the matter was arranged, as were all other parties. I made good all I promised, paid for all the blunders I made, and filled all orders honestly. Did I not, friend H?

"The "new light," I hope, made me a better man; especially in regard to confessing my faults when I saw them, but it did

not make me perfect, by any means. I cannot blame you for thinking I make but a poor show, for I often feel almost discouraged about it myself. I think I am doing right about the smoker, and as I am sure friend Bingham thinks he is doing right, I guess we shall arrange it pleasantly. If I have spoken unkindly, or jestingly of some of your queer views, friend Heddon, I beg your pardon, and will try to do so no more. If I ever go to Michigan again, I am going to see you, and I hope you will talk right out, just what you think. I very seldom quarrel with people when I can see them face to face.

Will all those whon John Long owes foundation please write me the full circumstances?

May God bless the AMERICAN BEE JOURNAL and all its readers, and help me to remember, whatever may turn up, what I have just said. A. I. ROOT.

Medina, Ohio.

[These apologies show that friend Root has been benefited by the "new light," and we are glad to see the spirit manifested, as well as the frank acknowledgements therein made. "Confessing our faults, one to another" is a duty enjoined upon us, and we always feel better for obeying it. Truly, "to *obey* is better than sacrifice." It brings down Heaven's richest blessings upon us, as well as our injured brothers.—ED.]

For the American Bee Journal.

Chips from Sweet Home.

For the benefit of the readers of the AMERICAN BEE JOURNAL, and more especially those who have not been able to call upon the Editor, in his office, I will give a brief description of what I saw there. We got off the C. B. & Q. train, walked 3 blocks, took the horse-cars, rode thereon, about 3 miles for 5 cts., to 974, West Madison St.

Here, upon the first floor, we found ourselves in a large capacious room; upon the right was quite a large collection of apiarian supplies, upon shelves protected from dust by sash. Upon the left was a variety of "honey slingers," and hives. At the farther end was the printers' cases, where our letters and articles were being set up in shape for thousands to read. In the center and on the left of the room is the Editor' easy chair and office; I should have said there were two chairs, one for T. G. N., and one on his left for his Son, for they are both as busy as bees, every day, every month of the whole year; their whole time being devoted to the interests of the AMERICAN BEE JOURNAL.

To those not accustomed to the Editor's Chair, it may seem an *easy chair*, but such, brother bee-keepers, is not the case with the editor of our BEE JOURNAL. Having served, a short time, in an editor's office, (as a devil? Oh no!) we know what some of his duties are, and will give you some idea of it: First, he reads *all* your letters and articles, *if possible*. Why, says one, can he not read them *all*? No, he cannot; for some are so poorly written that a Philadelphia lawyer could not read them; others need re-writing and correcting before they go to the compositor, and many, very many he only glances over, and is compelled for want of room to throw into the waste-basket. Were our Editor to put in all our articles, letters, and clippings from foreign bee journals, also some from home papers, he would need a journal four times as large.

Then, friends, two things are necessary. First, that he should discriminate, clipping some and discarding others entirely. Secondly, on our part, to *boil down* our letters and articles, telling our ideas in as few words as possible, so that they will occupy as little space and convey our ideas as forcible as language will permit. First, then, be sure you have something to write that others will want to read; secondly, write it in as few words as possible, and, if you are not accustomed to writing, look over your article and see how much you can shorten it; by thus doing, you will improve your article for publication.

These articles *boiled down*, (*multum in parvo*), are the ones more eagerly read and longer to be remembered than those long, dry, tedious columns. So, in conclusion we would say *boil them down*.

D. D. PALMER.

Ventilation of Bee Houses.

ARE BEE HOUSES NECESSARY?

There has been, and still is a strong effort upon the part of some to do away with houses to winter in. The substitution of cushions and chaff mats are intended to supersede winter repositories; but, if a repository is so constructed as to be a complete success under all conditions of the atmosphere, it is far in the advance of all mats and cushions, bundled about the bees on their summer stands.

1. The bees never fly and waste.
2. The value of a house is soon saved in honey.
3. The bees are prepared for winter, and put away with less expense.

BEES CONSTANTLY NEED FRESH AIR.

Those who have been observing have learned, from the influence of warm air upon their bees in winter quarters, in Dec. last, to keep bees quiet, they must be constantly supplied with fresh air, in sufficient quantities to preserve a normal condition of the atmosphere.

WHAT SHOULD BE THE TEMPERATURE?

That depends altogether, or largely so, upon the purity and motion of the air.

Place a thermometer at the ceiling of a bee house 60° fahr., and another at the floor 54° fahr., and the bees at the floor 54° are wasting more than those above at 60° fahr.

There is no effect without a cause.

WHAT CAUSE PRODUCES THIS EFFECT?

The normal condition of the atmosphere has been destroyed by the respiration of too

many bees for the amount of circulation in the room.

As the oxygen is consumed, the nitrogen becomes light and ascends upward, leaving the carbolic acid gas to effect the bees at the floor.

If the air is pure and the motion strong, 50 or 55° is not too warm.

HOW TO VENTILATE THE ROOM.

Every bee house should be furnished with a refrigerator, an underground air duct, which will at all times, not only furnish fresh air, and a strong current, but cool air when the atmosphere is warm, and warm air, comparatively, in cold weather.

Atmospheric pressure being 14 lbs. to the square inch, run an air duct through tiling, of 6 in. capacity, 5 feet underground, for 200 or 300 feet; the opposite end from the house, or mouth of the refrigerator in the house, about 6 feet the lowest, with the slant of the ground, and a wonderful current of air is created in the house, on condition that it is permitted to escape above.

When the temperature of the atmosphere in the bee house and out doors are the same, the air would stand still in the air duct, and must be started by a stove-pipe, connected with the flue or chimney in an upper room, while the air rushes in at the base of the chimney in the cellar or bee house.

WILL IT PAY?

When we take into account the pure, healthy, and cool (not too cold) condition that our bees are in, and the amount of honey saved by housing,—and not only so, but how this cool, pure air can be utilized in summer—saving milk, butter, meat, etc., forbiding everything to rust or corode, it must pay.

This warm winter admonishes me that my bee house is incomplete without a refrigerator, and it shall have it.

I removed the last of my 237 colonies from their winter quarters, on March 1st, without the loss of a colony or queen during the winter.

This establishes one fact, that plenty of heat and fresh air is the great secret in wintering bees.

The loss of queens in a temperature of 35° or 40° fahr. will average about 1 to every 25 colonies.

I had my 237 colonies and some of my neighbors' bees in a room 25x12 ft., and the most of the winter, the murcury stood 55° to 60° fahr., with the doors and windows open nights.

Camargo, Ill. A. SALISBURY.

For the American Bee Journal.

Dadant against himself.

MR. EDITOR:—If any of your readers will take the trouble to go back to vol. 12, page 188, they will find a short article, read before the Michigan Bee-keepers' Association, on the improvement of the Italian bee. My object, in that paper, was to draw attention to the fact that the Italian bees were *not* uniform in color—not yet a fixed variety. I pointed to the drones, as one of the means whereby we might obtain a more uniform color; and also stated that there were a great many dark, and even black bees in Italy. Thus showing the necessity of a more careful method of breeding.

Mr. Dadant, on page 205, has criticised my remarks, and says there are no black bees in Italy; and, as I understand him, not even hybrids. And further, offers to pay $200 to any one that will prove it.

Now, seeing I am included among those who believe that there *has* been black bees there, if not now; and, of course, plenty of hybrids, I endeavored, in vol. 13, page 127, to "give a reason for the faith that is in me," by giving the testimony of some very eminent men upon the subject. Men, too, whose evidence will be hard to set aside.—I also gave the evidence of Mr. Dadant himself. I extract the following from my reply as then given:

"Vol. 8, page 86. Mr. Dadant was in Italy, as late as 1872. He writes: 'Sartori says that there is some *black* blood mixed with the Italian, on the frontiers of Italy.'—Again, on page 87, Mr. D. makes this remarkable statement: 'I am now wondering why Mona wrote that all the bees of the Italian peninsula were pure Italian, when he *ought* to have known that there were such enormous differences in their color and character.'"

Now, is it not very plain, that when he wrote the above, that he believed that there were impure or hybrid bees in Italy? I have no knowledge, however, of *when*, or *why* he changed his views. In my last reply, I said nothing about his offer; but, seeing that he paid no attention to the evidence given, and has made another bold challenge in vol. 13, page 308, I now claim the $200. I have no idea, however, of letting Mr. Dadant be the judge or jury, but suggest that you appoint as many intelligent bee-keepers as you think best, yourself included, and let them say whether I am entitled to the money or not. I will cheerfully abide their decision.

GEORGE THOMPSON.

Geneva, Kane Co., Ill.

[We are sorry to be called upon to select a committee to decide this question—much preferring some other person to do it. But, as it seems to be so decided by friend Thompson, we will, if friend Dadant acquiesces in such appointment, suggest that friends A. I. Root and A. J. King act with us, as such committee.—ED.]

For the American Bee Journal.

Division Boards.

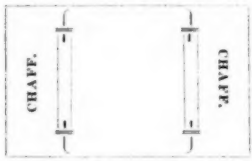
DEAR EDITOR:—I have derived so much benefit from the pages of the JOURNAL, that I desire to contribute my mite.

Now that the use of the division board is becoming so important to the successful wintering of bees, what we need is one that will meet the requirements. I think every bee-keeper will agree that absolute accu-

racy in dimensions of hives has not been attained.

I have a variation of ¼ inch in some, owing to a variation of ⅛ inch in the planing-mill dressing. It is plain that a rigid division board will not be interchangeable, and divide off tightly any way. I have devised an improvement, and find it so valuable to me that I submit it to the fraternity for approval.

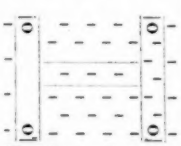
It is the ordinary board, ½ or ⅝ in. thick, and sawed ½ in. or ¾ in. short, and slotted by a saw at the end, so as to take in a strip of thin rubber packing, so as to project about ½ in. I prefer one at each end. It makes as nearly an air tight joint as necessary, and holds its place admirably without hanging, and needs no top bar or projection, and will, I believe, answer fully if the rubber is at each, projected inward towards the combs to support chaff packing in the outer space, and so do away with chaff cushions for all who use movable bottom boards, thus:



It is simple and cheap. In the spring all that is needed to unpack is to lift off and let the chaff drop, and it is done. But really, with a *tight* board, chaff is not needed so much, for air is a non-conductor of heat.

I have also to suggest an improvement to the shipping case. It is a thin false bottom for sections and a frame for those who ship in 3 section frames with a hole at each corner for the insertion of a short rubber cylinder to fit close, with a projection proportioned to the weight. The rubber can be got in coils and cut off squarely and inserted; ⅜ or ½ in. round rubber will do. This will add very little to the cost of crates—far less than Mr. Hoge's plan, and save much weight. One inch additional depth of crate will be required. The holes must not be bored quite through.

For Sections.



For 3 sec. frames.

J. W. PORTER.

For the American Bee Journal.

Extracted and Adulterated Honey.

This is now the question of the day, and a very vital one, too.

Probably, the most useful thing done by the National Society, since it was founded, was the publication of "*Facts for the public;*" from which I intend to quote, for argument.

"Comb honey is no better than extracted honey."
"Almost all pure extracted honey will granulate."
"The granulated state is a fine evidence of purity."

The honey question lies entirely in those propositions, and if they were only properly applied by all, there would be no need of discussion on the subject.

For instance, Prof. Cook argues that all extracted honey, if pure, will granulate; that granulation is evidence of purity; and still, he advises, in the AMERICAN BEE JOURNAL, (p. 79), to melt honey before selling it.

Now, a few questions: Why does he advise to melt honey, instead of selling in the granulated state? Does he not see, that the moment honey becomes a liquid, it is on a level with the adulterated, which is always liquid, and drowned in 60 or 75 per cent. of glucose? Is he not then favoring adulterators, by making his honey look like theirs?

Will he say that honey does not sell in the granulated state? Then what will he do if his honey granulates in the hands of the purchaser? Would it not be better to teach them that "the granulated state is a fine evidence of purity?" Or, is he willing to keep up a *delusion*, for the sake of selling a little honey *now*, and to help injure the sale of the evidently pure honey of the large producer, besides running the risk of having honey stamped as "doctored," by *those who know* that it should be granulated, if pure?

Nay; Is it rational to take the trouble to melt granulated honey, for sale, when he acknowledges that granulation is the *only easy* way to ascertain purity?

I agree with the decision of the North-Eastern Convention, on this subject, (page 90), provided this paragraph be made to read as follows:

"It was agreed that the effect is very injurious, both to producers and consumers of honey." .....
"If honey is kept from candying, it is adulterated."

Friends, please turn to the cover page of the AMERICAN BEE JOURNAL; it tells you that our old and reliable periodical is devoted to the production of *Pure Honey*. Yes, pure! And we, U. S. Bee-Keepers, will stop that adulteration, in a short time.

Friend Root seems to be under the same delusion as Prof. Cook, for he says:

"Some attempts have been made to get honey into a marketable shape in its candied state; but, so far, have been unsuccessful."

We have had a honey extractor ever since it was invented. In fact, we had one made, according to our ideas of it, before any were manufactured for sale. Since that time, we have raised more extracted than comb honey, and sold it in the *granulated* state, at paying figures; except the first season, when we had extracted it too soon, and it was thin and watery, of poor quality, and, of course, not entirely granulated.—We then found some customers who did not like granulated honey, or who imagined that it was "doctored;" but *now* we find that it sells *better* than liquid honey.

We raised, this season, some 13,000 lbs. of honey; 9,000 or 10,000 lbs. of which being extracted. One-half of it was sold in our home markets. The rest, together with the comb honey, was sold in St. Louis,

where it sold very readily. Now, all we have left is about 500 lbs. of comb honey, and 200 lbs. extracted.

Conclusion: We will raise nothing but extracted honey.

I cannot praise too highly, the ideas of Mr. Clute, as given on page 73, showing that low prices will *not* injure the bee business; but, on the contrary, will encourage it.

We have sold honey this year at 10c. per lb., and at that price *it pays*, and every body can buy it.

May I make a prophecy? In 10 years from now, granulated, extracted honey will alone be in large demand, and will sell as high as comb honey, if not higher. Honey will then be put up, like butter, in tin or wooden pails, or in jars; and not in cans or barrels, with a faucet to draw off, like glucose.

A few words of thanks to Messrs. Hetherington, J. H. Martin and others, who support the true way. We shall be the winners, for tens of thousands follow us, and approve. C. P. DADANT.

Hamilton, Ill., March 12, 1878.

For the American Bee Journal.

The Norway Maple.

A CORRECTION.

After reading Prof. Cook's remarks on "Norway Maple" in your last, I suspected a case of "mistaken identity" for I was sure if he and I meant the same tree he would have spoken differently. The tree in question is quite common near me. I have several fine specimens on my lawn, and they are planted on both sides of the avenue all along Prospect Park. They are called here by the people and nurserymen "Norway maple," and I have accepted that name for them without question; but now, examining the descriptions, I find that they do not answer to that of *Acir platanoides* but as far as I can judge by such parts as I can now find and recollection of other parts, they are the *Acer pseudo-platanus* or Sycamore maple. I will add that no other maple, and I believe, *no other tree*, not even the famous linden, can compare with them in the quantity of honey they yield. They bloom just before white clover, and the trees are literally covered with it—100 to 1 on the basswood—and every flower fairly drops with honey. The air is filled with their odor for rods around and the bees swarm over them from early morning to dark, and even all night if there is moonlight. I did not, at first, like the flavor of the honey, but after eating it freely for some time I enjoy it almost as well as buckwheat, which I take for my standard. Several old bee-keepers who have visited me and to I have sent specimens, pronounce it, on first taste, the finest honey they ever saw. It certainly cannot be surpassed in whiteness, even by teasel. The tree is of rapid growth, and one of the finest of the maples for ornamental purposes. I notice all the seed dealers in New York have them on their lists. J. HASBROUCK.

Flatbush, L. I., Feb. 18, 1878.

Table Syrups.

The following is the full "Report of the Michigan State Board of Health," on a special investigation concerning impurities and adulturations in Table Syrups. At this time this Report will be read with special interest:

Many weeks ago a can of syrup was placed in my hands by Prof. Beal, which has the following history:

A family by the name of Doty, of Hudson, Mich., purchased some syrup of a grocer in that village. The members of the family ate freely of the syrup, and were all made very sick by its use. They became alarmed and sent a can of the syrup to the Agricultural College for analysis, supposing it to contain poison.

Other families in the vicinity became so alarmed by the singular sickness in the Doty family that they returned their syrup to the grocer. The grocer had purchased the syrup from a very respectable wholesale dealer in Toledo, Ohio, who claimed to have bought it from the manufacturer for pure cane syrup.

The syrup was of a light yellowish-brown color, and looked like a very respectable syrup. It had a decidedly acid reaction with blue litmus paper, turned black when sulphide of ammonium was added to it, and gave a heavy precipitate with oxalate of ammonia. On analysis, I found that the body of the syrup was made of starch sugar (glucose) instead of cane sugar. The amount of foreign impurities will be given in the results of examination, being No. 9 in that series. The free sulphuric acid (oil of vitriol), the sulphate of iron (copperas) and sulpho-saccharate of lime were probably the cause of the sickness in the Doty family.

The results of the analysis of this syrup induced me to examine a number of table syrups to ascertain whether similar adulterations exist in other varieties of table syrups.

Dr Letheby, in his admirable work "On Food," states that the Anglo-Saxon population of England and America consume, annually, 41.4 lbs. of sugar per head; the Latin race, including the inhabitants of France, Italy, Spain, Belgium, Portugal and Switzerland consume 12.34 lbs. per head; the Teutonic race of the Zollverein, Austria, Holland, and Denmark consume 7.3 lbs. per head: while the poor of Russia, Poland, Turkey and Greece consume only 3.3 lbs. per head.

The Anglo-Saxons are pre-eminently a sugar-consuming race. There are few luxuries so prized by Americans, for whom the chief articles of table luxury have sugar as an important element. The large consumption of sugar is not confined to the wealthy, but is almost equally as common with those of limited means. To defraud the poor man of his sweet, is to cheat him out of the chief table comfort which his poverty can afford.

Before giving the results of my examination of table syrups, I will remind my read-

ers of certain facts regarding sugar. There is a large class of substances included in the general term, *sugar*. Only two are of sufficient commercial importance to demand our attention at present. One is termed by the chemist, *sucrose*, and includes cane sugar, beet sugar, and maple sugar. These sugars are chemically identical, and possess the same amount of sweetening power. Sucrose exists in the sap of a great variety of plants, and has never been manufactured from any other material.

The second class is called *glucose* or grape sugar; the white lumps of sugar in raisans is glucose. This kind of sugar may be manufactured from other materials, *e. g.*: from starch, woody fibre, etc. While it is possible to make this kind of sugar out of old cotton and linen rags, paper, sawdust, &c., yet it is not profitable to do so, because of the time required to make the change and the difficulty in purifying and decolorizing the sugar when it is made. But this sugar can be very rapidly and economically made out of starch, and the manufacture has been carried on in France for a long time, and seems to have been intrduced into this country.

The chemical composition of cane sugar differs from that of starch only by one molecule of water, while grape sugar differs from starch by two molecules of water. If we could chemically combine one molecule of water with one of starch, we could make cane sugar. Chemists have attempted this by boiling starch with dilute sulphuric acid, but they always overdo the matter, adding two molecules of water, thereby getting grape sugar instead of cane sugar. If chemistry shall ever enable us to readily and cheaply combine the one molecule of water with starch, then the millennium of the sugar lovers will have come, for a bushel of corn will then make about 25 lbs. of cane sugar.

But chemists have not yet solved this problem which taxes their ingenuity only to tantalize their endeavor.

But while chemists have been baffled in their attempts to convert starch into cane sugar, they have found it very easy to convert starch into grape sugar. I will briefly describe the process as given by Payen, because we shall then more fully comprehend the results reached in the examination of certain syrups.

The saccharification of the starch in France is carried on in large wooden vats, capable of holding 2,800 gallons. The contents of the vat may be heated by forcing in steam through a coiled steam pipe at the bottom. The steam pipe is perforated, to permit the steam to escape at many points into the contents of the vat. In France the steam pipe is made of lead; in this country I suspect they use iron pipes. When 2 tons of starch are to be converted into sugar, 32 bbls. of water and about 80 lbs. of sulphuric acid are placed in the vat, and the whole heated to 212° by forcing in steam. Two hundred lbs. of starch are then mixed with 22 gallons of water and stirred up, and 4 or 5 gallons of this mixture are run into the vat. The temperature is kept up to the boiling point all the while, and successive charges of starch are run in till the whole amount is converted into sugar.—The steam is then shut off, and chalk is added in a sufficient quantity to neutralize the sulphuric acid, but if too little chalk is used, free sulphuric acid will be left in the contents of the vat. The sparingly soluble sulphate of lime is formed, and much of it settles to the bottom of the liquid; the clear liquid is drawn off and evaporated by steam heat till the proper destiny of syrup is secured, or until it will crystalize on cooling and standing for several days, according as they seek to make syrup or sugar.

This brief description will assist us to understand why certain impurities are found in these starch-sugar syrups. If iron pipes are used to convey the steam for heating the contents of the vat, the sulphuric acic will attack and dissolve some of the iron, and thus sulphate of iron (copperas) will appear in the syrup. If too little chalk is used, free sulphuric acid will remain in the syrup. The chalk being carbonate of lime, its use will explain why lime may be found in large quantities in the syrup. As chalk is insoluble in water, and sulphate of lime is very sparingly soluble, many persons would suppose that little or no lime would remain in these syrups. But we must bear in mind that sugar itself acts the part of an acid with many substances.—Thus there are two well known salts formed by combination of lime and sugar; one containing one equivalent of lime to one of sugar, the other containing 3 equivalents of lime to one of sugar.

These sucrates of lime have lost, entirely, the sweet taste characteristic of sugar, and have a bitterish taste instead. Last spring some students at this College brought me a small quantity of a whitish, granular mass, which deposited from the maple syrup in "settling" to make maple sugar. The sugar boilers called it *sand*, as it is hard and gritty, insoluble in water, and destitute of any sweet taste. On analysis I found the material to be nearly pure sucrate of lime, containing in addition a small amount of phosphate of magnesia. Here was the natural formation of the sucrate of lime from the elements of plant food contained in the sap.

Not only will sugar thus combine with lime, oxide of lead, oxide of iron, &c., but it will associate with itself sulphuric acid, and form a compound acid which comports itself very differently from simple sulphuric acid. This sucro-sulphuric acid forms a pretty large class of salts which are soluble in water, but especially soluble in solutions of sugar. Reagents which will readily precipitate sulphuric acid and sulphates, *e. g.* chloride of barium, will not precipitate the sucro-sulphates.

Glucose has the same power as an acid substance as sucrose, forming a class of soluble glucosates. It will also associate with itself sulphuric acid, and form a class of gluco-sulphates. Undoubtedly, a large part of the lime found in these starch-sugar syrups exists in the form of gluco-sulphate of lime. The sparing solubility of sulphate of lime in water is no guarantee that these syrups will not contain a large

amount, because it may exist in the form of the soluble gluco-sulphate of lime.

One evil connected with the presence of lime in syrups is the destruction of a portion of the sweetening power of the syrup. One part of lime will destroy more than six times its weight of sugar, so far as any sweetness is concerned; and the compound of lime and sugar is bitter.

In making my selections for examination, I obtained specimens only from those who are regarded first-class tradesmen. If syrups bought at such places are adulterated, we may well suppose that the inferior class of dealers will have no better articles. Some have said that, undoubtedly, poor people who trade at small groceries are swindled in these syrups, but that the respectable class of citizens who patronize first-class grocers need not apprehend any such imposition. I determined to follow up "the respectable citizen" and see what syrups he obtained of "first-class grocers." Part of the specimens were obtained near home, but the most from abroad. I have examined 17 specimens in all, with the general result that 2 were made of cane sugar and 15 of starch sugar or glucose.

SPECIFIC RESULTS OF EXAMINATION OF TABLE SYRUPS.

No. 1.—Pure cane sugar syrup.

No. 2.—Starch sugar syrup. Contains some sulphate of iron (copperas), and contains in each gallon 107.35 grains of lime.

No. 3.—The grocer called it "poor stuff." I have seldom seen an article that better sustained its recommendation. Made of starch sugar; contains plenty of copperas and 297 grains of lime in a gallon.

No. 4.—Nearly pure cane sugar syrup.

No. 5.—Starch sugar syrup. Contains copperas, and 100 grains of lime in a gallon.

Nos. 6, 7, 8.—All made of starch sugar.—Contain sulphate of iron and plenty of lime.

No. 9.—This is the specimen from Hudson which caused the sickness in the Doty family. A starch sugar syrup; contains in the gallon 71.83 grains of free sulphuric acid, 28 grains of sulphate of iron, and 363 grains of lime.

No. 10.—Contains starch sugar, copperas and lime—amount not estimated.

No. 11.—A starch sugar syrup. Contains in the gallon 141.9 grains free sulphuric acid, 25 grains sulphate of iron, and 724.83 grains of lime.

No. 12.—Contains starch sugar, seasoned with sulphate of iron and lime.

No. 13.—Starch sugar. Contains in the gallon 58.48 grains of sulphate of iron, 83.14 grains of free sulphuric acid, and 440.12 grains of lime.

No. 14.—Starch sugar.—Contains in a gallon 80 grains of free sulphuric acid, 38 grains of iron and 262.48 grains of lime.

Nos. 15, 16.—Contain starch sugar, sulphate of iron and lime.

No. 17.—Starch sugar, sulphate of iron, and 202.33 grains of lime.

A very important element in this discussion is the great disparity in sweetening power between cane sugar and starch sugar or glucose. One pound of cane sugar has the same sweetening power as 2¼ pounds of glucose. In these starch-sugar syrups, the public is not only treated with compounds, loaded with foreign and injurious materials, but they are enormously cheated in the very thing they seek to buy, viz: the sweetness. Sugars and syrups are bought, not as articles of food solely, but entirely for *their sweetness*, and thus the buyer is largely defrauded out of the very thing for which alone he makes a purchase.

The thought of using such mixtures as a relish for our food is not very appetizing.—Some of these drips seem to be made up of about equal parts of fraud and dirt! A facetious friend has quoted, in this connection, the old saying, "A man must eat his peck of dirt before he dies." If any one feels uneasy lest he be defrauded of "his peck of dirt," let him eat a few gallons of No. 11, and he may rest on his laurels the balance of his days.

WHOSE FAULT?

The public will naturally ask, "Who is to blame that such disgusting and fraudulent mixtures are sold in the shops?" I do not think that the retail dealers are "sinners above all that dwell in" Michigan, in this respect. Most of them honestly suppose that they are selling a good article of cane sugar syrup, and are themselves surprised that so good-looking syrups can be sold at so low a price compared with that of sugar—a price often less than that of the dark colored and strong flavored molasses which remains from the manufacture of cane sugar. The manufacturers are chiefly to blame in this matter, for they cannot be ignorant of the fraud in selling glucose for cane sugar; but even they will probably be surprised to learn how large a quantity of foreign materials is left in these syrups.

TESTS.

It is popularly supposed that an infusion of tea-leaves will certainly detect the presence of starch sugar, by the dark coloration which it imparts to the syrup. Strong tea will give a re-action of this kind with a salt of iron—the same re-action which makes black ink; hence strong tea may be used to detect the presence of copperas in syrup; but it will give no re-action with grape sugar containing no iron.

In most of these syrups, lime is the largest adulterant aside from the starch sugar itself. Lime may easily be recognized in the syrup by a solution of oxalic acid. Dissolve 1 ounce of oxalic acid in a pint of rain water; if the solution is not clear, let it stand for a few hours till it settles, then pour off the clear solution into a clean bottle and label it OXALIC ACID.—POISON. To test the syrup, place a tablespoonful in a tumbler half full of rain water, stir it up, and add a tablespoonful of the oxalic acid solution. If there is much lime in the syrup it will show itself by a white precipitate, the amount of which will give some measure of the amount of lime present.

R. C. KEDZIE.

AGRICULTURAL COLLEGE,
Lansing, June 30, 1874.

For the American Bee Journal.

Creating a Honey Market.

DEAR EDITOR:—The February number of your valuable JOURNAL is at hand. On page 41, I notice an article by friend R. M. Argo, of Lowell, Ky., about various matters, in which the first sub-heading is:—"Honey Market."

To create a larger demand for honey, I think it would be a good plan, if you would collect some recipes, like that of making jellies, etc. with honey, which is, for a good many purposes, superior to sugar; print them, with some articles about its superiority and healthfulness over sugar, syrup and molasses, in pamphlet form. I think every bee-keeper could afford to buy liberal quantities and distribute them among the people in their vicinity. This, no doubt, would help to create a larger demand for honey, as it would be read by a great many who do not read a newspaper. Will you try it?

Mr. Argo speaks very truly of an enemy to the bee-keeper, the "glutted market."—In my neighborhood, there are some farmers that keep from 5 to 20 colonies each, who raise from 1 to 300 lbs. of honey; they are anxious to dispose of it. They consider it a "big pile," and consequently offer it below the local market price, and that having been once reduced, people are not willing to pay more afterwards. If the larger apiarists will not sell their honey for the same price as these farmers do, they cannot sell any, as long as these farmers have any left for sale.

It does not come into their minds to subscribe for THE BEE JOURNAL, or buy any books treating on bee-culture. If there is any trouble among their bees, they frequenty go to apiarists to inquire what to do with them, etc. Without such information, it would sometimes be costly to them.

Therefore, I think such a small pamphlet, as is above mentioned, were printed, with name of producer on it, it would be a great help to enlarge the demand for honey in the vicinity of every bee-keeper, and I, for one, would buy a good quantity of them.

I retail honey at home: Extracted, 12½c. per lb. Comb, (small lots, from 4 to 5 lbs.), for 20c. per lb.

Bees are doing well in the cellar. I put in, last fall, 159 colonies, in good condition. We have had an unusually mild winter here, and very little snow.

FRED CLAUSSEN.

Mishicott, Wis. Feb. 7, 1878.

[You are right, friend Claussen. A neat and attractive pamphlet, setting forth the various uses, both for food and medicine, of *pure honey*, as well as its general adaptation to the wants of the human family, would do much good, just now. No one can conceive how much it would help in *creating a demand* for that wonderfully nutritious, health-giving and soul-reviving produrt of nature!

Before the advent of sugars and many vile compounds, called "syrups," "silver drips," &c., honey was the only sweet in general use. And to-day it is the common article of food among many nations, especially among the Polanders, the Russians, and the inhabitants of the Orient. And it is a notorious fact that those nations, among whom the use of honey is general, excell all others in health, physical strength and endurance!

It is undeniable that *pure honey* is the simplest, the healthiest, the most natural, and the most strengthening article of food for healthy persons, as well as the best remedy for the sick; and for the convalescent it is the true balsam of life, to restore them to their wonted health and strength!

Knowing these facts, we *cannot* dodge the responsibility—and though we are much crowded with other duties, we will, at once, write the pamphlet requested by friend Claussen.

On another page may be found a prospectus, mapping out the line of thought to be pursued, and soon after this JOURNAL is in the hands of subscribers, we hope to have the pamphlet ready to send to all who desire to co-operate in this most laudable enterprize of giving valuable information to their fellow men, and at the same time aid in creating an over-whelming demand for this wonderful product of nature—PURE HONEY.

To make its appearance inviting, we shall print it in plain, readable type, on fine book paper—for much valuable information is rendered useless, when poorly printed on inferior paper.

A sample copy will be sent post paid, for 10 cents. We shall supply them in lots of 100 or more at a very low rate, to encourage all to take hold of the enterprise. Without extra cost, we shall also print on the top of the cover-page "Presented by," &c. (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a fair and profitable price.

In lots of 100 we will send them, postpaid, for 5 cents each; in lots of 250 copies, at 4 cents each; in lots of 500 or 1000 copies at 3 cents each. When more than 100 copies are wanted they will be sent by express, at the expense of the purchaser.

We verily believe that one hundred copies of this pamphlet, judiciously distributed in every honey-producing locality, will forever annihilate the cry of "*glutted market.*" In

its place will spring up the DEMAND—"Give us of your honey; ours is all gone!" And as the demand increases, the prices will increase correspondingly.

This is no idle dream, but a sober reality! If there be a general and thorough trial—the result is *certain!*—"Creating a demand" is *sure!!*

Presistent effort will accomplish wonders—united action will show results almost miraculous!—ED.]

For the American Bee Journal.

Comb Foundation.

I have made my comb foundations on a plaster of Paris model, made by running plaster into a mold with foundation on each side, thus:

No. 1.—Wooden box, size and shape for the mold of plaster. 12x12, 1½ inches thick, I think the best.

No. 2.—The foundation tacked on the sides of the box, for the plaster to run into and shape.

No. 3.—Plaster of Paris mold in position in the mold.

The foundation can be made at home, from scraps of wax; saving freight and toll. The foundations are 12 to 14 square feet to the pound, and are not all broken up, like those you buy, in transportation. It is a perfect *fac simile* of the copy, on one side of the machine foundation, and a faint copy on the other. It is so thin that you would not know it from natural comb, after the bees have worked it out. The same dip that gets the plain sheet for the machine furnishes this, only be careful to keep the plate well soaked and you can make about 10 lbs. an hour. The only draw-back is, that some bees do not make the cell as regular on one side as on the other.

Buchanan Co., Iowa. J. M. PRICE.

[The samples sent with this letter, we think, are too thick for use in surplus boxes, and though it might do, as suggested, to work up odd pieces of comb, we should much prefer to get the cells alike on both sides. It is an ingenious way of doing it,—the inventive genius is very commendable.—ED.]

For the American Bee Journal.

Transferring Bees.

I will give my plan, which I think an improvement on anything that I have seen in print:

Alarm the bees with a little smoke, reverse the hive under a tree, or near a fence; have a heavy blanket, I think a soldier's blanket best; fasten a ring, 10 or 12 inches in diameter, in the center, fasten a strap across the center to hang it up and to carry it by. It can be hung up to the limb of a tree, or to a pole or rail, with one end put across the fence. Drum a little and raise the blanket on one side. Split or pry off one side of the hive; cut out the comb; transfer to the frame, by using a transfer board, a little larger than the frame; fasten the comb in, by using an awl, if the combs are empty; but if heavy with honey and brood, tack a few strips of thin wood across the frame cornerwise; remove the strips when the bees have fastened the combs. Take hold of the strap of the blanket; carry the bees to the hive, placed where you want it to stand; let the blanket down; raise one side; turn it upside down; the bees will then crawl into the hive.

Let any one having bees to transfer, try this plan, and they will not want to try any other.

I have transferred hundreds of swarms and dispensed with the drum box altogether; the blanket adjusts itself to any size of box or gum. G. W. ZIMMERMAN.

Napoleon, O., March 12, 1878.

For the American Bee Journal.

Humbugs and Swindles.

This is the heading of an article in *Gleanings* for February, in which the editor states that Mitchell and his agents are obtaining money by fraudulent claims; that Mitchell is the ring-leader of swindlers, &c.

What I want to know is: Where the humbug comes in? Those who have followed Mr. Root for years, know that he commenced with the Langstroth hive; then after the "Common-sense Hive" was patented, he used the principal features of it in his "Simplicity." When Mr. Mitchell got his patent on the "Adjustable Hive," he appropriated the cloth-end division boards, and then called Mitchell a humbug. Is this following the "golden rule"—doing to others as he would that they should do to him?

Now let us see if Mr. Mitchell is humbugging the public. He charges $10 for a right to make and use his hive. The materials cost but 50c.; his agents sell them, complete, for $1.25.

If a man has 100 colonies, the account would stand thus: Right, $10. Hives, $125.00. Total, 135.00. Mr. Root sells the Langstroth hive complete for $3.75; the Simplicity, for $5.00. Take the cheapest:—100 at $3.75 would cost $375.00. Now deduct the price Mitchell's cost $135.00. The balance, $240.00 is in favor of Mitchell and against Root.

Is it not better to pay for a right for using a good hive, than to get a non-patented one that costs three times as much? I like to see fair play.

I transferred 100 colonies last season to the Mitchell hive, and have not lost one; my bees are now stronger than when I put

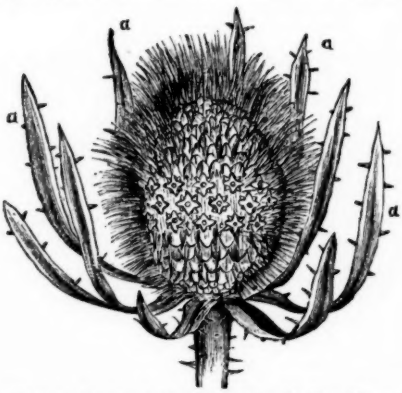
them into winter quarters; they have been breeding all winter. C. EGGLESTON.
Macon City, Mo., Feb. 19, 1878.

For the American Bee Journal.

All about Teasel.

Teasel is sown about May 1st in continuous rows, 3 ft. apart, and thinned down to about 10 inches apart in the row. Alternate rows are planted to corn, or turnips may be sown between the rows. Teasel leaves lay almost flat on the ground; it is therefore difficult to cultivate it. Clay and gravel soil is best for it, when highly cultivated.—Light soils should be avoided, as it is liable to winter-kill.

The following year (May 1st) it should be hoed; each plant will soon throw out a stalk 4 ft. high, and from every joint, or leaf, other stalks will grow, attaining similar height. At the extremity of each stalk, or branch, are buds which are called teasels, varying in size from 1 to 4 inches in length,



[This excellent cut is from Prof. Cook's New Manual of the Apiary, and shows the Teasel bloom.—ED.]

and one-half the length in diameter. One root often produces 20 or more of these buds. The first to bloom are the largest; they are termed 1st, 2nd, and 3rd, according size.

They bloom about July 5th, and continue out 4 weeks. Each bud (teasel) blossoms profusely, beginning first in the center of the bud, the flower being similar to red clover.

After the bloom ceases, the teasels should be cut. The bloom on the 1st ceases in about 2 weeks; on the 2nd, 5 days after; and so on.

They are dried (or cured) by laying them on a lattice-work floor, in a loose-sided building. A good crop will cut about 300,000 teasels; they are worth 40c per 1000.—(10 lbs. to a 1000).

Its honey-producing qualities are equal to basswood—and when the latter fails us (as it did last season) the teasel yields profusely.

The flavor of teasel honey is excellent; it it transparent and white, correspondents in the Dec. and Jan. Nos. to the contrary, notwithstanding. One of these asserts that teasel produces two kinds of honey. Such an idea is preposterous! If such were a fact, would the two car-loads of *white* teasel honey shipped to Thurber & Co. last fall have been so admired? My whole crop of white honey was gathered from the teasel.

Teasel produces no pollen, but bees will be nearly covered with a white substance, like flour, while working upon it. By this I know that my bees gathered their white honey from teasel.

Teasel is one of the greatest honey-producing plants in existence, and it will pay to cultivate it for that purpose.

Marcellus, N. Y. N. N. BETSINGER.

For the American Bee Journal.

How to become Successful.

In order to become a successful apiarist, three things are absolutely necessary:

1. A location abounding with honey-producing plants, of the different varieties, both early and late. For early—such as willow, elm, soft maple, cherry, plum, apple, currant, gooseberry, raspberry, &c.

For summer—white clover, basswood, mustard, cucumber, squash, poplar, pumpkin, &c.

For fall—buckwheat, golden rod, wild sun-flower, and all the various varieties of flowers that bloom in August and September.—thus keeping one continual flow of the saccharine juices of nature's laboratory, from early spring until the icy hand of winter prepares all nature for her long slumber.

2. A good hive; not such as our fathers used; (the old log gum, nail-keg, round straw cap, &c. &c.) but a hive that permits every comb to be taken out and examined, and all necessary operations performed without killing a single bee, or exciting their anger. It should afford suitable protection against extremes of heat and cold, sudden temperature and the injurious effects of dampness. It should be capable of being adjusted to the wants of either large or small colonies; to allow the combs to be removed without any jarring; and to furnish all needful security against the ravages of the bee moth. The bottom board should be permanently attached to the hive, for convenience in moving it and to prevent the depredation of moths and worms; and it should enable the apiarist, who relies on natural swarming, and wishes to multiply his colonies as fast as possible, to make vigorous stocks of all his small after-swarms. Such swarms contain young queens, and if they can be judiciously strengthened, usually make the best stock hives.

In order to become a successful apiarist, it is necessary that he should understand the internal economy of the bee-hive, to some degree at least, and unless he is in possession of such knowledge, (he may be in possession of the best hive in the world, and be placed in the best locality that the country affords,) he will be almost absolutely certain to make a failure.

I know a man that has 200 colonies of bees, and his average amount of surplus honey per hive will not fall short of 80 lbs. He is the right man in the right place, and

has the right bees in the right hive. With him, it is bees first, and recreation and hunting afterwards. Such a man will succeed in a greater or less degree in any locality where fortune may place him in.

The enemies of bees are: Toads, spiders, woodpeckers, king birds or bee martins, as some call them, the moth miller, and man. But the moth miller is the most destructive, if we except man.

Think of the colonies so arranged in the apiary that the young queens fail to enter the right hive, and thus are lost, while the stock has no means of raising another; thus becoming a sure prey to the moth miller or to be robbed by other bees; and if not robbed, the whole inside of the hive becomes one solid mat of webb and worms; and after all, the whole damage lies at the door of the self-styled bee-keeper; with a little knowledge on his part, nine-tenths of the damage might have been averted.—Look at the increased destruction of bees for the past few years, brought about by the construction of clap-trap hives, by those utterly ignorant of the first principles of a good hive! Some moth nurseries; some smothering pits, during the winter!

Is it, then, any wonder that man should be called the greatest enemy of the bee?

Andalusia, Ill. C. HOTCHKISS.

Our Letter Box.

Millersville, Ill., Feb. 10, 1878.

"I have 50 colonies of Italians, and I have taken from them 4,500 lbs., actual weight, being an average of 90 lbs. to the hive; all sold at an average of 12½ cts. per lb."

J. E. WALCHER.

Abronia, Mich., March 8, 1878.

"Bees have gathered honey and pollen all day. I never knew bees to get honey so early, before, in Michigan. They seem in fine order."

T. F. BINGHAM.

Owosso, Mich., Feb. 25, 1878.

"The cause of ¾ths of the deaths of bees in winter, is that their honey is volatile, and gathers water; the bees being compelled to eat so much water with their honey, it physics them, and as it extends them so much, they cannot contain it, and die—often coming out of the hive in the coldest weather to die, rather than to stay in the hive and pollute it. REMEDY.—Throw out all the uncapped honey at the beginning of winter, and let them have honey that is sealed up, to live on. That gathers but little water. Poor honey may be given them in the spring."

M. RICHARDSON.

Glenwood, Ill., Feb. 14, 1878.

"I put 102 swarms into the cellar, about Jan. 1; 14 are in box hives, the rest in Quinby frame hives. The box hives are inverted; the frame hives are right side up, on the bottom boards, with the entrance at bottom open. The 3 spaces in the honey boards are open. They are so arranged that dead bees can be swept out. The cellar is 16x24 feet, and is under the kitchen; it has an outside entrance, double doors, with chimney from the bottom. I put in a stove but had no occasion to use it, since the first few days after putting in. I warmed them up well then, to dry the hives.—The weather had been very wet for some time before, but it was cold when I put them in; the boards of the hives were full of frost. They seem to be doing well. The extractor you selected for me, last summer, works well, also smoker."

C. L. FROST.

Garland, Pa., Feb. 11, 1878.

"Bees did very little here in the line of surplus honey, the past season; those that were well housed came out in the spring strong and healthy; swarmed early, and did well till the first of July, then wet weather began and they gathered no more clover or raspberry honey. The chestnut and basswood failed to yield honey, although they bore heavy bloom, and the weather was fine. Buckwheat and fall flowers yielded abundantly; in consequence, some hives were crowded in the brood chamber, and went into winter quarters with lighter swarms than we like to winter; but up to date, they appear to be in as fine condition as one could wish. For want of room in the bee house, we are wintering 14 swarms on their summer stands, packed in chaff.—The first we have tried in chaff, since the fall of 1867; that fall, we packed nearly all our bees in chaff. All that were so prepared came out in the spring in good condition.—We built a house the following season, and have wintered in that since then, with the exception of few swarms that have stood out every winter, with the caps filled with straw as their only protection, and have lost very few bees, excepting in the winters of 1874-5; (then we lost one-half; we wintered in). I think the old-bee theory correct, with regard to the mortality among our bees and those of our neighbors, that died the same winter. I took the trouble to examine the hives in 15 different apiaries, where the loss was from one-fourth to all they contained; and, in every case, found little or no pollen and no signs of brood, and came to the conclusion that it was for the want of young bees to supply the place of old ones, that caused them to dwindle down and die out so rapidly."

JNO. F. EGGLESTON.

Charles City, Iowa, Jan. 22, 1878.

"Last summer we had a good crop of honey from basswood and white clover.—The spring was wet and a late frost injured the fruit blossoms, and a drought cut the fall crop short, but our honey was all thick and of good quality. On May 1st, I had 14 colonies. I doubled my number and averaged nearly 50 lbs. per colony, of comb honey, in 2½ lb. sections. I have no extractor; my bees are mostly Italians. My Italians have always done the best. One new swarm filled a large hive, and made 90 lbs. in sections, on top. Another old stock (with a dollar queen, bought of J. H. Nellis, in the fall of 1876,) made 113 lbs. of surplus, in sections, tiered up, on top. I bought 6 more colonies last fall; making 34 now in the cellar, with the caps and top boards all

off and chaff mattresses 4 inches thick over them. The explanation, in *Gleanings*, last summer, of how to make square-edged mattresses, by sewing up only one piece of cloth and tucking in the corners, and stitch before they are turned, is well worth the price of one year's subscription. We have a very warm winter. Some days in December the thermometer stood at 68° out of doors. I put a load of ice in the cellar to keep my bees still. I have made a new smoker that beats them all. I have thrown mine down, and let it lie for 3 hours and picked it up and it was ready for business, without re-lighting." L. SUTLIFF.

Fremont Co., Iowa, Feb. 8., 1878.

"I have just finished reading the JOURNAL, and am highly pleased with it. In the fall of 1876 I went to California and remained there 9 months. California was over-done in the bee business, up to last year, when the drouth played sad havoc with bees.—The Los Angeles and San Gabriel mountains, or the orange and white sage districts produce good honey, while the bay country is so affected with tar weed, that the honey is almost worthless for food. I went into winter quarters in the fall of 1876, with nearly 80 colonies. Went west and remained till July 3, 1877; when I came home, I found over ⅛ of my bees dead, there being hardly a strong colony in the yard. Basswood started all to strengthening up, so by the time heart's-ease bloomed, all were strong again. When basswood bloomed, I had 46 colonies; increased 2, making 48 in all. I extracted 5,500 lbs. of honey, and my bees went into winter quarters strong in bees and stores. I am wintering out of doors, with packings of straw. I have sold nearly all my honey to farmers, at 12½ cts. per lb. The weather has been excellent for wintering out of doors, excepting their having drawn largely on stores, but I think they will be strong in spring." W. MORRIS.

Wenham, Mass., March 11, 1878.

"Bees never wintered as well as during the past winter. All my colonies have come out nice and strong. The weather the past week has been like May. My bees, on the 10th of March, commenced to carry in pollen. I have been a bee-keeper upwards of 20 years, and never knew them to carry it in so early. Some 15 years ago, they commenced on March 16 to carry it in; but, as a general thing, they cannot do much at it earlier than about April 10. You did not understand me correctly about sending queens by mail. I have for the past 6 or 7 years paid letter postage on all packages containing queens, and have had no trouble. I do not ship them as my friend Cameron, of Kansas, suggests. We sent 1 package, containing 5 queens, to Canada, last year.—The postage fell short 3 cts., and it was returned with the words "*not mailable*" marked on it. They were re-packed, full letter postage paid, and they went all right."
H. ALLEY.

Napoleon, O., March 14, 1878.

"Bees have wintered well in this section. I wintered without loss. They are strong and well." G. W. ZIMMERMAN.

St. Hilaire, Quebec, March 12, 1878.

"On Dec. 1, I put 60 colonies in the cellar. The thermometer has ranged from 50 to 55° all winter. As the weather has become unusually warm at this time of year, I now throw a few shovels full of snow, every other day, under my hives, to keep them quiet. Not one of them exhibits any signs of uncomfortableness. Spring, in the Province of Quebec, seems to come fully one month earlier than usual."
THOS. VALIQUET.

Edgerton, Kansas, March 8, 1878.

"Our bees are in the best condition that they ever were at this season of the year.—They have been gathering pollen for over a week, filling up with brood quite rapidly.—The buds are bursting, grass is starting, and everything indicate a very early spring." A. B. DILLE.

Plymouth, Wis., Feb. 16, 1878.

"Last season was a very fair one with us. Had 2,900 lbs. of honey; 1,940 lbs. of which was comb-honey and 962 lbs. extracted; and such a season for swarming! May I never experience the like again. I used every measure that is known to science to prevent increase, but all to no purpose. It is needless to state that I have lost the conceit which I entertained, of being able to prevent swarming under *all* circumstances. I think the black bees were as much disposed to swarm as the Italians. I am wintering 98 colonies; a few which I fed late in the fall, have dysentery and will probably die before spring. Well, this serves me right; for I neglected to supply the proper conditions, which I knew to be necessary to insure safety. The sample Case and Boxes came safely. Shall adopt them this season; only, I find that I shall have to make the top and bottom 6 inches long. Winter is too warm for this latitude. Thermometer stood at 42° at noon to-day." J. N. MCCOLM.

Chicago, Feb. 23, 1878.

"EDITOR JOURNAL:—In your article headed 'Honey Adulteration,' in the February No. of your JOURNAL, you suggest that the labels on the jars containing the adulterated honey, condemned in Glasgow, Scotland, may have been counterfeited.—Your readers would naturally infer that they were counterfeited or used by some other dealer in, and packer of honey. As C. O. Perrine is, and has been for years the most prominent in this line, I desire to state, as his Manager for a long time, and fully knowing to all honey and other goods packed and shipped in America and abroad, for the past 3 years, that I never saw or knew of a single counterfeit label put upon a jar of honey in this house. In this connection, I will add that we have been shipping honey to Europe for 3 or 4 years, and we have not had a single complaint; but, on the contrary, have received the highest praise for quality of goods, style of packages and safe packing. The only objection to repacked honey was the candying of it, which is the best evidence of its purity, and one party (a late shipment) refused to pay a sight draft, with invoice and bill of lading, as he wanted to see the

honey before paying. After its arrival he desired further time to have it analyzed, which we suppose was done, as some weeks intervened before we finally received our money. We have had orders for car-loads of our re-packed honey; 500 cases at a time, which we could not fill, as we were unable to get the quantity of honey to fill the orders; and this is just what has forced Mr. Perrine to start an apiary, to get such honey as his customers desire, and in large quantities, and to be able to sell it at the lowest prices. If suggestions are in order, *perhaps* one of the parties spoken of in said article did not commence using the $1000 *reward labels* until after the exposure of adulterated re-packed honey."

W. W. HILTON, *Manager.*

Rome, Ga., March 12, 1878.

"Bees have had a fine time nearly all winter. We have had only a few days they could not be seen carrying in pollen, and to-day, many hives have a plenty of brood and drones. The peach and plum trees are in bloom. The weather being warm, it affords the bees a rich harvest. We have Italian swarms at work in boxes, 2 weeks ahead of the natives. I shall look for swarms by the 25th of this month."

A. F. MOON.

Lake Mills, Wis., March 8, 1878.

"Bees all out-doors; kept them in cellar first part of winter; then moved them out on summer stands and packed buckwheat straw around them; all are doing finely—flying and carrying in pollen. Bees out-doors are doing the best this winter."

O. L. RAY.

Berkshire, N. Y., Jan. 10, 1878.

"I have 49 colonies to commence operations with. I wish to get 1 good early swarm from each parent stock, and then stop all after-swarming, and get *every pound* of honey they will produce without robbing them or losing any swarms. How shall I do it?

W. C. LEONARD.

Bloomfield, Iowa, March 11th, 1878.

"Bees wintered well on summer stands here. I had 32 stands last fall and got them all through without the loss of one. They carried in the first pollen on the 6th, inst."

D. M. DEUPREE.

Kalamazoo, Mich., March 15, 1878.

"Bees doing finely; have lost but 1 colony, out of 137, so far; they carried in pollen lively on the 8th, 9th, and 10th; the earliest ever known in this section."

W. B. SOUTHARD.

San Luis Bay, Cal., March 12, 1878.

"Honey prospects fair, for this year.—The season is 5 or 6 weeks late. Have had over 16 inches of rain, but no floods in the *Bee-end* of the state. Crops of all kinds promise to be abundant. Chalmers Scott is my nearest neighbor on the west. He does not keep bees—never did; don't know anything about them, and is no authority for anything in the bee business. Swarming does not begin, generally, before April 15."

G. F. MERRIAM.

Easton, Pa., March 20, 1878.

"The JOURNALS came in due time. To say that I am pleased with their general 'get up,' will hardly express my appreciation of them. I see a decided improvement in them within a year, though I then thought it all that could be desired of a bee journal. If you keep on improving as you have done, the JOURNAL must become the *ne plus ultra* of bee literature, the world over."

O. W. SPEAR.

Monmouth, Ill., Feb. 18, 1878.

"J. H. Eldridge, Earlham Road, Norwich, England, in exchange for some seeds of the figwort (*scrophularia nodosa*) sends me some 'furze' seed (*ulex europæus*), and describes it as follows: 'Furze is a perennial, almost leafless, dark green, spring bush, living very many years. (It was this plant which so astonished and delighted Linneus, when in England, by the beauty of a mass of its flowers. Many acres of our un-inclosed land are covered with it). In early June the bush is covered with bright yellow blossoms, and with, perhaps, the exception of August, there is not a month in the year when some blossoms may not be found on a full-grown bush. The bush grows 3 ft. high and round. It flourishes in almost any soil, except chalk. It will form a hedge, and, in England, grows in the most sandy soil and exposed places.' If any of your readers feel disposed to send me a stamp, I will send them 20 or 25 seeds. I have been thinking that it might prove both useful and ornamental to form division fences between lots, also to form a screen. Friend Eldridge says it is doubtful as to its being a great honey plant, but it affords an abundance of pollen. I would advise soaking the seed in water before planting. Sow in rows or a bed, and transplant the plants. It is a native of Europe. So is *scrophularia*. The latter is anodyne, diuretic, tonic, dissentient, an anthelmiretic, and useful in scrofula."

T. G. MCGAW.

Hubbard, O., March 22, 1878.

"My bees have wintered well, excepting 2 colonies. One of them starved, and one queenless. I had 8 colonies in the cellar, and the others well packed on their summer stands. I now have 30. Last season, I sold $125 worth of honey, gave some to my three sons and their families, and used some at home. I had only 12 colonies that made my surplus."

J. WINFIELD.

Hamilton, Ont., March 14, 1878.

"FRIEND NEWMAN:—I suppose as I have not heard who sent from Canada the most subscribers for THE JOURNAL for last year, up to Aug. 15, it must have been myself; (I would like to know,) and if it was, I will exclude myself this year, and now renew the offer, viz: I will give a tested Queen to any one sending the most subscribers for the AMERICAN BEE JOURNAL from Canada before August 15, 1878; if they do not want my queens, I will give them an order on any good breeder in the United States."

W. G. WALTON.

[Friend Walton was entitled to the queen last season. Thanks for new offer.—ED.]

American Bee Journal.

TERMS OF SUBSCRIPTION.

Single subscription, one year.....$2 00
Two subscriptions, sent at the same time..... 3 50
Three " " " " 5 00
Six " " " " 9 00

All larger clubs at the same rate.

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THOMAS G. NEWMAN & SON,
974 West Madison St. CHICAGO, ILL.

To Correspondents.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received at this office, and arrearages are all paid.

We will give Hill's work on "Chicken Cholera" (price 50 cents), to any one desiring it, as a premium for two subscribers.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways.

When ordering Extractors, give outside dimensions of frame or frames to be used, length of top-bar, width and depth of frame just under top-bar.

In consequence of the dearth of small currency in the country, we will receive either one, two or three cent stamps, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, made payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us four subscribers to THE AMERICAN BEE JOURNAL with $8.00. Premium Queens will in every case be tested.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send us any small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our Illustrated Catalogue.

Our Illustrated Catalogue of Implements for the Apiary, for 1878, is issued. Its predecessor for the season of 1877 was flatteringly received, and we feel sure that this, a much enlarged Catalogue, will be even more welcome to thousands of bee-keepers from Maine to California, and from Canada to the Gulf of Mexico.

It is usual for manufacturers of Supplies for the Apiary to issue Price-Lists of *their own goods*, but we believe no one ever attempted to issue a general and universal Price Current and Illustrated Catalogue of such, till ours of last season appeared—that was a genuine "new departure!" Purchasers may, by the aid of our Catalogue, compare prices, and scan closely the various articles offered, by means of its many illustrations and descriptions, thus being enabled to *select* such goods as are desired. It is not always that the cheapest is the best; often such are proportionately inferior.

We have no interest in anything enumerated in our Catalogue, other than a retailer's profit, and recommend no article except on *real* merit. Being located in a great centre of commerce, it is sometimes very convenient to get goods of different manufacturers all at one shipment. Except in a few instances, we ship either from this office or the manufactory, which ever is the nearest to the purchaser. Orders filled promptly at the prices quoted.

It contains 32 pages, and is printed in the very best style of the art, and will be sent postpaid to all who may desire it. The following is the

TABLE OF CONTENTS.

Queen Registering Cards..... 24
Quinby Hooks, for Hives..... 24
Scissors for Clipping Queen's Wings..... 24
Sections, Frames and Boxes..... 7
Shipping Crates—Heddon.....)
The Prize Crate .....)
Slates for Registering—to hang on hives..... 10
Smokers—Ailey, Bingham, Quinby..... 8
Bingham's Patent.....8, 28
Seeds for Honey Plants..... 21
Salicylic Acid, for foul-brood..... 24
Transferring Clasps (Novice)..... 24
Wire Cloth for Extractors, Cages, &c..... 24
Wood Engraving.....27, 31

Friend T. F. Bingham, writes: "Thanks for your Catalogue. It is a neat pamphlet—really a beauty."

Friend James Heddon remarks: "Your Catalogue is received. I have no special interest in any Catalogue, so I cannot be considered prejudiced when I say: It is only on a piece with the old A. B. J.—simply standing at the head; the A. B. J. of to-day is much better than ever before. I owe you this *truthful* compliment."

Western Illinois Convention.

The Western Illinois Bee-Keepers' Society will meet at Burlington, Iowa, Tuesday and Wednesday, May 7th and 8th, 1878.

You are hereby cordially invited to attend our Convention, and bring with you anything you think will be of interest to bee-keepers, such as hives, extractors, smokers, boxes, honey-knives, bee-veils, honey, tools, etc. What may seem *old* to you, may be *new* and of interest to others. Reduced rates will be given at hotels. Meeting will commence at 10 A. M.

PRIZES.—*Nine Prizes* will be given away to *members present* at this meeting, which are as follows:

1st.—A full stock of Italian Bees with Imported Queen.
2d.—An Imported Queen.
3d.—An Imported Queen.
4th.—A Queen bred from an Imported Cyprian Queen.
5th.—A Tested Italian Queen.
6th.—A Dollar Queen.
7th.—One dozen "Sweet Home" Raspberry Plants.
8th.—One plant each of the following named Raspberry Plants: Doolittle, Mammoth Cluster, Golden Thornless, Seneca, Miami, Ganargua, Brandywine, Philadelphia, Lumb's Ever-bearing, and Brinkley's Orange.
9th.—A couble-portico Langstroth Hive complete, with cap covering both porticos, honey-board, full set of section honey-boxes, with shipping-crate for the same.

Thos. G. Newman, editor of *The American Bee Journal*, will deliver a public lecture on "Honey."

Membership fee, 50 cents; ladies free.

Notice the cnange in time of meeting.

D. D. PALMER, *Pres't*,
Eliza, Mercer Co., Ill.

WILL M. KELLOGG, *Sec'y*,
Oneida, Knox Co., Ill., and Oquawka, Ill.

Central Kentucky Blue Grass Bee-Keepers' Association.

The first semi-annual meeeting of this Association will meet at Lexington, Ky., on Tuesday, the 7th of May, at 10, a. m., when subjects of importance will be freely discussed. The Essay of Dr. S. E. Mitchell, "Bee-keeping Healthful and Profitable for Ladies" will no doubt bring out a large delegation of the fair sex. Prof. James K. Patterson, H. C. Herspurger, John W. Bean, A. D. Brown and others, will read Essays or otherwise address the Convention. The proper mode of marketing honey, will receive special attention. The Williamson Bro's have promised to have a large exhibition of apiarian implements and supplies on hand for inspection, and altogether, the Convention promises to be of unusual interest; we hope every bee-keeper in this part of Kentucky will attend.

JAMES K. PATTERSON, *Pres't.*
WM. WILLIAMSON, *Sec.*

☞ It will be noticed that we have been obliged to set all our advertising pages in smaller type, to give room. There are now 14 lines to the inch, instead of 12, as heretofore with the larger type.

Michigan Bee Keepers' Association.

The twelfth meeting of the Michigan Bee-keepers' Association, will convene at East Saginaw, April 10 and 11th. It is expected that this will be the most interesting meeting the Association has ever held. Some of the most extensive bee-keepers' in the state and abroad, are expected to be present, and will take part in the discussions.

Extra pains have been taken to have on exhibition, a fine display of apiarian supplies. The meeting will convene in the rooms of the Young Men's Christian Association, over the post-office.

East Saginaw, is a central railroad point and easily accessable from all parts of the state. Best accomodation will be had at the hotels, at reduced rates.

Let the bee-keepers' turn out. The experienced can exchange ideas, become acquainted, and be much benefited—while the inexperienced will find this a valuable school.

W. L. PORTER, *Sec.*
A. B. CHENEY, *Pres't.*

"All railroad trains arrive at East Saginaw, at noon; the first session will commence at 2 P. M. There will probably be an evening session, also a morning and afternoon session on the 10th, making 4 in all. There will be 2 or 3 essays read at each session, and the balance of the time will be occupied in discussing the topics presented in essays."

A. H. RUSSELL.

Honey Markets.

NEW YORK.—We quote as follows:

There is no improvement to report in the markets this month, as is generally the case, at this season of the year. A disposition is manifested by dealers who hold a stock, to unload; and they are particularly so this year, because of the general shrinkage in values; and favorable reports from California seem to indicate lower prices, next fall

Buckwheat Honey—comb	8 to 12c
Strained or extracted	8 to 10c
Clover—in comb	15 to 25c
" extra	8 to 12c

H. K. & F. B. THURBER & CO.

CHICAGO.—We quote as follows:

HONEY.—The current quotations for good to choice comb, still ranging at 12 to 14c. ₱ lb; common and dark colored lots at 10 to 11c. and choice extracted honey at 10c.

BEESWAX.—In fair request at 27 to 35c. per lb. for prime choice yellow.

CINCINNATI.—Quotations by C. F. Muth. Comb honey, in small boxes, 15@20c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz., $4.50; per gross, $50.00.

LOUISVILLE.—Quotations by B. B. Barnum.—I will pay for choice, light, extracted honey 8@10c.; for white comb 12½@15c., in small boxes.

HOW TO WINTER.—Those who wish to post up on the subject of wintering, will do well to read Prof. Cook's essay as read before the National Convention of last year.—Price 15 cents.

DIED, Jan. 29, 1878, Clarence W. Stokes, aged 30 years 3 months and 29 days. Although an invalid all his life, he was a successful bee-keeper and loved his bees.